



Analysis of State and Federal Sulfur Dioxide Emission Regulations for Combustion Sources (Revised)

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by

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1. INTRODUCTION

State Implementation Plan (SIP) regulations and Federal new source performance standards (NSPS) pertaining to sulfur dioxide (SO_2) emissions from fuel combustion have been compiled and summarized in this report. The source categories to which the regulations apply are broadly defined as indirect and direct heat exchangers: primarily steam generators or boilers. Regulations applicable specifically to incineration of solid waste or to processes which include fuel combustion (cement kiln, lime calciner, etc.) were not included in this compilation.

This report can be used as a quick reference to estimating SO_2 emission rates, assessing ranges of SO_2 control, and quantifying the relative stringency of SO_2 emission limits. It was developed to serve as a starting point for broad control strategy evaluations and is not intended to be a precise reference for individual compliance determinations. The EPA recognizes that many States have SIP-approved limits for specific sources. Users are cautioned to contact the appropriate State and/or local air pollution control agency and EPA Regional Office to verify the specific SO_2 emission limit that is applicable to an individual source.

Sulfur dioxide regulations vary among the States and even within an individual State. Different emission limitations may apply depending on such parameters as facility size, fuel type, geographical location, and age of source. Included in this report are all the important factors that determine the applicability of a particular emission limit. Such factors (actual or rated heat input, test method, and length of time over which emissions are averaged) have a significant influence on the stringency of the emission limit.

The remainder of this report is organized as follows. Chapter 2 provides an overview of SO_2 emission regulations and briefly contrasts the basis for emission limits among each State. It also identifies typical uncontrolled and controlled emission levels. Chapter 3 discusses in considerable detail the potential SO_2 emissions from fuel combustion, as well as the various aspects of State and Federal SO_2 emission regulations. Chapter 4 describes the performance of available SO_2 control techniques.

Chapter 5 contains information on the applicability, emission limits, and compliance methods for each State SO₂ regulation. A summary of the major provisions of several Federal NSPS affecting SO₂ emissions from fuel combustion is provided in Appendix A.

2. SUMMARY

SO₂ emission limits for fuel combustion sources have been incorporated into SIPs as part of control strategies designed to provide for the attainment and maintenance of national ambient air quality standards (NAAQS) for SO₂. The form, stringency, and applicability of these emission limits often depended upon parameters such as fuel type, facility size, and method of determination (actual or design heat input), geographical location, and age of source. This chapter summarizes the basis for emission limits among States, compares the stringency of SO₂ emission limits, and discusses typical uncontrolled and controlled emission rates from fuel combustion sources.

2.1 BASIS FOR EMISSION LIMITS

Table 2-1 delineates the parameters upon which SO₂ emission limits for each State are based. This section discusses similarities in the basis and format of State SO₂ emission regulations.

Twenty-eight States have emission limits that depend on fuel type. In most cases, the difference in emission limits is based solely upon whether solid or liquid fuel is used. Some States, however, make further distinctions in emission limits based on the type of fuel oil (e.g., residual or distillate) and type of coal (e.g., anthracite or bituminous) that is used.

With respect to emission limit format, most State rules restrict the pounds of SO₂ that can be emitted per million Btu heat input to the furnace (e.g., lb SO₂/MM Btu) or restrict the sulfur content of fuels allowed to be burned (e.g., % sulfur, by weight). Twenty-two States have emission rate limits only, while 3 States have sulfur-content limits only and 21 States allow compliance with either an emission rate or a sulfur content limit. Only four States have an emission limit based on exhaust gas SO₂ concentration.

Facility size dictates the emission limit in 29 States. The most common size cutoff is 250 MM Btu/hr. However, a number of States also include different emission limits at cutoff points below 250 MM Btu/hr, such

Table 2-1. Basis for SIP SO₂ Emission Limitations in the United States*
(Applicable to fuel combustion sources)

EPA Region	State	Attain NAAQS for SO ₂	Dependent Fuel Type	Emission Rate Format (lb/MMBtu)	Fuel Sulfur Content Format (% S)	Emission Concentration Format (ppm)	Facility Heat Input Determination		Facility Size	Dependent on Date Construction Commenced		Emission Limit by County	Emission Limit by City	Emission Limit by Area
							Actual	Design		New Source	Existing Source			
1	Connecticut	•	•	•	•		•							
	Maine	•		•	•			•						•
	Massachusetts	•		•	•			•					•	•
	New Hampshire	•	•	•	•					•	•			•
	Rhode Island	•		•	•		•							
2	Vermont	•	•	•	•			•	•					
	New Jersey	•	•	•	•			•	•	•	•	•		
	New York	•	•	•	•		•		•	•	•	•		
3	Delaware	•	•	•	•		•	•	•	•	•			
	Washington, D.C.	•			•			•						
	Maryland	•	•	•	•		•		•			•		•
	Pennsylvania	•	•	•	•			•	•			•		•
	Virginia	•		•	•		•					•		•
4	West Virginia	•		•	•		•	•	•			•		•
	Alabama	•		•	•			•	•			•		•
	Florida	•	•	•			•		•	•	•			
	Georgia	•	•		•		•		•					
	Kentucky	•	•	•			•		•	•	•			
	Mississippi	•		•					•	•	•			
	North Carolina	•		•				•						
	South Carolina	•		•				•	•	•	•			
	Tennessee	•		•				•	•	•	•			
	Illinois	•	•	•				•	•	•	•	•	•	•
5	Indiana	•		•				•	•					•
	Michigan	•	•	•	•			•	•					
	Minnesota	•	•	•				•	•					•
	Ohio	•	•	•				•	•			•		
	Wisconsin	•	•	•	•			•	•	•	•	•		•

* Excluding New Source Performance Standards Criteria.

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Table 2-1. Continued

EPA Region	State	Attain NAAQS for SO ₂	Dependent Fuel Type	Emission Rate Format (lb/MMBtu)	Fuel Sulfur Content Format (% S)	Emission Concentration Format (ppm)	Facility Heat Input Determination		Facility Size	Dependent on Date Construction Commenced		Emission Limit by County	Emission Limit by City	Emission Limit by Area
							Actual	Design		New Source	Existing Source			
6	Arkansas	•		•						•				
	Louisiana	•				•								
	New Mexico	•		•				•	•	•	•			
	Oklahoma	•	•	•				•	•	•	•			
	Texas	•	•	•		•	•			•	•	•		
7	Iowa	•	•	•				•	•	•	•	•		
	Kansas	•		•	•			•	•	•	•			
	Missouri	•		•			•	•	•				•	•
	Nebraska	•		•				•			•			
	Colorado	•	•	•				•	•	•	•			
8	Montana	•	•	•	•		•							
	North Dakota	•		•				•						
	South Dakota	•		•				•						
	Utah	•	•	•	•		•							
	Wyoming	•	•	•				•	•	•	•			
9	Arizona	•	•	•				•		•	•			•
	California†	•	•	•	•		•					•		
	Hawaii	•			•									
	Nevada	•	•	•			•	•	•	•	•			
	Alaska	•				•	•	•						
10	Idaho	•	•		•		•	•						
	Oregon	•	•	•	•				•	•				•
	Washington	•				•								

* Excluding New Source Performance Standards criteria.
† Each Air Pollution Control District has individual criteria for fuel burning regulations. For summary purposes, "typical" criteria is specified.

as 10 MM Btu/hr and 100 MM Btu/hr. In general, larger facilities must comply with lower emission limits.

About half of the States list separate emission limits for new and existing sources. However, only seven States actually have different limits for new versus existing sources. In these cases, the emission limits for new sources are lower than for existing sources.

Finally, about half of the States have different emission limits depending on geographical location. Area designations on which these limits are based include political boundaries (such as counties or cities).

2.2 EMISSION LIMIT COMPARISON

Comparisons of the most representative SIP emission limits for each State are presented in common units of pounds sulfur dioxide per million Btu heat input ($\text{lb SO}_2/\text{MM Btu}$) in Tables 2-2 and 2-3 for residual fuel oil and solid fossil fuels, respectively. For purposes of comparison, the most representative emission limits were assumed to be those that would be applicable over the largest area of the State. This assumption is reasonable from a nationwide standpoint, but it does tend to misrepresent those States where the majority of SO_2 sources are confined to a small area where a specific SO_2 emission limit applies. In some cases, an emission limit greater than that allowed under the Federal NSPS is listed in Table 2-2 and 2-3. This higher limit is shown because it could apply to a wider variety of sources than those defined under applicable NSPS. However, it should be understood that the NSPS would supersede less stringent SIP limits when a source is subject to both regulations.

Overall review of the information contained in Tables 2-2 and 2-3 reveals the following information regarding SO_2 emission limits. First, within a specific State there is generally no variation in allowable emissions due to facility size (MM Btu/hr). Exceptions to this rule are States such as Kentucky and Nevada, which specify emission limits by equations, and New York, Vermont, Georgia, Illinois, Michigan, Colorado, and Hawaii, which have lower limits for sources greater than 250 MM Btu/hr compared to smaller sources. Second, emission limits for residual oil are more stringent than those for coal in a number of States such as

TABLE 2-2. REPRESENTATIVE STATE SULFUR DIOXIDE EMISSIONS LIMITATIONS
FOR FACILITIES BURNING #5 OR #6 FUEL OIL
(lbs SO₂/MM Btu)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
1	<u>Connecticut:</u>					
	Existing	0.55	0.55	0.55	0.55	0.55
	New	0.55	0.55	0.55	0.55	0.55
	<u>Maine^{a, j}:</u>					
	Existing	2.4	2.4	2.4	2.4	2.4
	New	2.4	2.4	2.4	2.4	2.4
	<u>Massachusetts^{b, c, j}:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>New Hampshire^{a, j}:</u>					
	Existing	2.1	2.1	2.1	2.1	2.1
	New	2.1	2.1	2.1	2.1	2.1
	<u>Rhode Island^j:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Vermont:</u>					
	Existing	3.48 ^a	3.48 ^a	3.48 ^a	0.8	0.8
	New	3.48 ^a	3.48 ^a	3.48 ^a	0.8	0.8
2	<u>New Jersey^{b, j}:</u>					
	Existing	1.05	1.05	1.05	1.05	1.05
	New	1.05	1.05	1.05	1.05	1.05
	<u>New York^a:</u>					
	Existing	2.1	2.1	2.1	2.1	2.1
	New	2.1	2.1	2.1	0.77	0.77
3	<u>Delaware^{a, b, j}:</u>					
	Existing	1.8	1.8	1.8	1.8	1.8
	New	1.8	1.8	1.8	1.8	1.8
	<u>Maryland^{a, b, j}:</u>					
	Existing	N.A. ^d	2.1	2.1	2.1	2.1
	New	N.A. ^d	2.1	2.1	2.1	2.1
	<u>Pennsylvania^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Virginia^j:</u>					
	Existing	2.64	2.64	2.64	2.64	2.64
	New	2.64	2.64	2.64	2.64	2.64
	<u>Distric of Columbia^{a, j}:</u>					
	Existing	1.05	1.05	1.05	1.05	1.05
	New	1.05	1.05	1.05	1.05	1.05

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
4	<u>West Virginia^j:</u>					
	Existing	1.6	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6
	<u>Alabama^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Florida^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	2.75 ^d	2.75 ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Georgia^{f,j}:</u>					
	Existing	2.6	3.1	3.1	3.1	3.1
	New	2.6	3.1	0.8	0.8	0.8
	<u>Kentucky^b:</u>					
	Existing	6.0	4.49	4.0	4.0 ^h	4.0 ^h
	New	N.A. ^d	1.17	0.8	N.A. ^h	N.A. ^h
	<u>Mississippi^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	4.8	4.8	4.8	4.8	4.8
5	<u>North Carolina^j:</u>					
	Existing	2.3	2.3	2.3	2.3	2.3
	New	2.3	2.3	2.3	2.3	2.3
	<u>South Carolina^j:</u>					
	Existing	3.5	3.5	3.5	3.5	3.5
	New	3.5	3.5	3.5	3.5	3.5
	<u>Tennessee^{e,j}:</u>					
	Existing	5.0	5.0	5.0	5.0	5.0
	New	5.0	5.0	5.0	5.0	5.0
	<u>Illinois^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	1.0	1.0	1.0	1.0	1.0
	<u>Indiana^j:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	6.0	6.0
	<u>Michigan^j:</u>					
	Existing	1.7	1.7	1.7	1.1	1.1
	New	1.7	1.7	1.7	1.1	1.1
	<u>Minnesota^{e,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>Ohio^{e,j}:</u>					
	Existing	N.A. ^d	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
6	<u>Wisconsin^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.8	0.8
	<u>Arkansas^h:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Louisiana^{i,j}:</u>					
	Existing	4.6	4.6	4.6	4.6	4.6
	New	4.6	4.6	4.6	4.6	4.6
	<u>New Mexico:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Oklahoma:</u>					
	Existing	0.8	0.8	0.8	0.8	0.8
	New	0.8	0.8	0.8	0.8	0.8
	<u>Texas^{e,i,j}:</u>					
	Existing	0.94	0.94	0.94	0.94	0.94
	New	0.94	0.94	0.94	0.94	0.94
7	<u>Iowa^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
	<u>Kansas^j:</u>					
	Existing	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	New	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	<u>Missouri^j:</u>					
	Existing	8.0	8.0	8.0	8.0	8.0
	New	8.0	8.0	8.0	8.0	8.0
	<u>Nebraska^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
8	<u>Colorado:</u>					
	Existing	1.5	1.5	1.5	0.8	0.8
	New	0.8	0.8	0.3	0.3	0.3
	<u>Montana^{c,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>North Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
9	<u>South Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
	<u>Utah^{c, j}:</u>					
	Existing	1.7	1.7	1.7	1.7	1.7
	New	1.7	1.7	1.7	1.7	1.7
	<u>Wyoming:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.8	0.8
	<u>Arizona:</u>					
	Existing	N.A.	N.A.	2.2	2.2	2.2
	New	N.A.	N.A.	N.A.	N.A.	N.A.
	<u>California^{a, b}:</u>					
	Existing	0.53	0.53	0.53	0.53	0.53
	New	0.53	0.53	0.53	0.53	0.53
	<u>Hawaii^{a, j}:</u>					
	Existing	2.1	2.1	0.5	0.5	0.5
	New	2.1	2.1	0.5	0.5	0.5
	<u>Nevada^{c, j}:</u>					
	Existing	0.7	0.7	0.4	0.4	0.4
	New	N.A.	N.A.	N.A.	N.A.	N.A.
10	<u>Alaska^{i, j}:</u>					
	Existing	1.14	1.14	1.14	1.14	1.14
	New	1.14	1.14	1.14	1.14	1.14
	<u>Idaho^{a, j}:</u>					
	Existing	1.85	1.85	1.85	1.85	1.85
	New	1.85	1.85	1.85	1.85	1.85
	<u>Oregon^{a, j}:</u>					
	Existing	1.85	1.85	1.85	1.85	1.85
	New	1.85	1.85	1.85	1.85	1.85
	<u>Washington^{i, j}:</u>					
	Existing	2.29	2.29	2.29	2.29	2.29
	New	2.29	2.29	2.29	2.29	2.29

^aEmissions limitation is expressed in percent sulfur content of the fuel. Conversion to lbs SO₂/MM Btu is based on the assumptions of 100 percent conversion of sulfur to sulfur dioxide, and a heating value of 19,000 Btu/lb (residual oil). The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = \frac{1,000,000 \text{ Btu/MM Btu}}{\text{Heating Value (Btu/lb)}} \times (\%S) (2 \text{ lbs SO}_2\text{/lb S})$$

^bEmissions limitations were not expressed for the entire state. The median value was selected for comparison.

^cEmissions limitations were expressed as lb S/MM Btu. The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = 2 \times (\text{lbs S/MM Btu})$$

TABLE 2-2. (Continued)

- ^dRefers to "Not Applicable" for comparison purposes only. Either SO₂ emissions are not regulated in that State for a specific size category or for other reasons cannot be specified.
- ^eEmissions limitations are expressed for individual sources and counties. The value shown represents only limitations that apply to the largest area of state.
- ^fThe State regulation limits both fuel sulfur content and the SO₂ emissions rate depending on stack height. However, only the limits on fuel sulfur content are included in the SIP.
- ^gEmissions limitations are based on effective stack height for entire plant (equation).
- ^hEmissions limitations are based on federal regulations.
- ⁱEmissions limitation is expressed in parts per million (ppm). Conversion to lbs SO₂/MM Btu was based on the assumptions that F factors (dry basis) were 9,820 dscf/MM Btu (coal) and 9,220 dscf/MM Btu (oil), and a 6 percent oxygen content in the flue gas. The following equations calculate the equivalent emission rate at standard temperature (20°C or 68°F) and pressure 760 MM Hg or 29.92 in. Hg):
- $$C = 1.660 \times 10^{-7} (x \text{ ppm})$$
- $$E = C F_d \frac{20.9}{20.9 - \text{percent } O_2}$$
- where: E = pollutant emissions (lbs SO₂/MM Btu)
 C = pollutant concentration (lbs SO₂/dscf)
 F_d = dry basis F factor, which is the ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted
- ^jNew source performance standards (40 CFR 60.40 and 60.40a) supersede less stringent State emission limits when applicable to a new combustion source.

TABLE 2-3. REPRESENTATIVE STATE SULFUR DIOXIDE EMISSIONS LIMITATIONS
FOR FACILITIES BURNING SOLID FOSSIL FUEL
(lbs SO₂/MM Btu)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
1	<u>Connecticut:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Maine^{a,j}:</u>					
	Existing	2.4	2.4	2.4	2.4	2.4
	New	2.4	2.4	2.4	2.4	2.4
	<u>Massachusetts^{b,c}:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>New Hampshire^j:</u>					
	Existing ^a	5.6	5.6	5.6	5.6	5.6
	New ^c	3.0	3.0	3.0	3.0	3.0
	<u>Rhode Island^j:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Vermont:</u>					
	Existing	3.3	3.3	3.3	1.2	1.2
	New	3.3	3.3	3.3	1.2	1.2
2	<u>New Jersey^b:</u>					
	Existing	0.3	0.3	0.3	0.3	0.3
	New	0.3	0.3	0.3	0.3	0.3
	<u>New York^a:</u>					
	Existing	N.A. ^d	4.13	4.13	4.13	4.13
	New	N.A. ^d	4.13	4.13	1.04	1.04
3	<u>Delaware^{a,b,j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Maryland^{b,j}:</u>					
	Existing	N.A. ^d	3.5	3.5	3.5	3.5
	New	N.A. ^d	3.5	3.5	3.5	3.5
	<u>Pennsylvania^j:</u>					
	Existing	4.8	4.8	4.8	4.8	4.8
	New	4.8	4.8	4.8	4.8	4.8
	<u>Virginia^j:</u>					
	Existing	2.64	2.64	2.64	2.64	2.64
	New	2.64	2.64	2.64	2.64	2.64
	<u>District of Columbia^{a,j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
4	<u>West Virginia^j:</u>					
	Existing	1.6	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6
	<u>Alabama^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Florida^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	6.17 ^d	6.17 ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Georgia^{f,j}:</u>					
	Existing	4.1	5.0	5.0	5.0	5.0
	New	4.1	5.0	1.2	1.2	1.2
	<u>Kentucky:</u>					
	Existing	9.0	6.73	6.0	6.0	6.0
	New	5.0	1.8	1.20	0.65	0.23
	<u>Mississippi^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	4.8	4.8	4.8	4.8	4.8
	<u>North Carolina^j:</u>					
	Existing	2.3	2.3	2.3	2.3	2.3
	New	2.3	2.3	2.3	2.3	2.3
	<u>South Carolina^j:</u>					
	Existing	3.5	3.5	3.5	3.5	3.5
	New	3.5	3.5	3.5	3.5	3.5
	<u>Tennessee^{e,j}:</u>					
	Existing	5.0	5.0	5.0	5.0	5.0
	New	5.0	5.0	5.0	5.0	5.0
5	<u>Illinois:</u>					
	Existing	6.8	6.8	6.8	N.A. ^g	N.A. ^g
	New	1.8	1.8	1.8	1.2	1.2
	<u>Indiana^j:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	6.0	6.0
	<u>Michigan^j:</u>					
	Existing	2.4	2.4	2.4	1.6	1.6
	New	2.4	2.4	2.4	1.6	1.6
	<u>Minnesota^{e,j}:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Ohio^{b,j}:</u>					
	Existing	3.6	3.6	3.6	3.6	3.6
	New	3.6	3.6	3.6	3.6	3.6

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
6	<u>Wisconsin^g:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	<u>Arkansas^h:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Louisiana^{i,j}:</u>					
	Existing	4.6	4.6	4.6	4.6	4.6
	New	4.6	4.6	4.6	4.6	4.6
	<u>New Mexico:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	New	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	<u>Oklahoma:</u>					
	Existing	1.2	1.2	1.2	1.2	1.2
	New	1.2	1.2	1.2	1.2	1.2
	<u>Texas^{e,j}:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
7	<u>Iowa:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	N.A. ^d	N.A. ^d
	<u>Kansas^j:</u>					
	Existing	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	New	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	<u>Missouri^j:</u>					
	Existing	8.0	8.0	8.0	8.0	8.0
	New	8.0	8.0	8.0	8.0	8.0
	<u>Nebraska^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
8	<u>Colorado:</u>					
	Existing	1.8	1.8	1.8	1.2	1.2
	New	1.2	1.2	1.2	0.4	0.4
	<u>Montana^{c,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>North Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
9	<u>South Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
	<u>Utah^{c, j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>Wyoming:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	1.2	0.3
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.2	0.2
	<u>Arizona:</u>					
	Existing	1.0	1.0	1.0	1.0	1.0
	New	0.8	0.8	0.8	0.8	0.8
	<u>California^{a, b}:</u>					
	Existing	0.83	0.83	0.83	0.83	0.83
	New	0.83	0.83	0.83	0.83	0.83
	<u>Hawaii^{a, j}:</u>					
	Existing	3.3	3.3	0.83	0.83	0.83
	New	3.3	3.3	0.83	0.83	0.83
	<u>Nevada^c:</u>					
	Existing	0.7	0.7	0.6	0.6	0.6
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
10	<u>Alaskaⁱ:</u>					
	Existing	1.14	1.14	1.14	1.14	1.14
	New	1.14	1.14	1.14	1.14	1.14
	<u>Idaho^{a, j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Oregon^{a, j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Washington^{i, j}:</u>					
	Existing	2.29	2.29	2.29	2.29	2.29
	New	2.29	2.29	2.29	2.29	2.29

^a Emissions limitation is expressed in percent sulfur content of the fuel. Conversion to lbs SO₂/MM Btu was based on the assumptions of 95 percent conversion of sulfur to sulfur dioxide, and a heating value of 11,500 Btu/lb (coal). The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = .95 \frac{1,000,000 \text{ Btu/MM Btu}}{\text{Heating Value (Btu/lb)}} \times (\%S) (2 \text{ lbs SO}_2\text{/lb S)}$$

^b Emissions limitations were not expressed for the entire state. The median value was selected for comparison.

^c Emissions limitations were expressed as lb S/MM Btu. The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = 2 \times (\text{lbs S/MM Btu})$$

TABLE 2-3. (Continued)

^dRefers to "Not Applicable" for comparison purposes. Either emission were not regulated in that State for a specific size category or for other reason specified.

^eEmissions limitations are expressed for individual sources and counties. The value shown represents only limitations that apply to the largest area of state.

^fThe State regulation limits both fuel sulfur content and the SO₂ emissions rate depending on stack height. However, only the limits on fuel sulfur content are included in the SIP.

^gEmissions limitations are based on effective stack height for entire plant (equation).

^hEmissions limitations are based on federal regulations.

ⁱEmissions limitation is expressed in parts per million (ppm). Conversion to lbs SO₂/MM Btu was based on the assumptions that F factors (dry basis) were 9,820 dscf/MM Btu (coal) and 9,220 dscf/MM Btu (oil), and a 6 percent oxygen content in the flue gas. The following equations calculate the equivalent emission rate at standard temperature (20°C or 68°F) and pressure 760 mm Hg or 29.92 in. Hg):

$$C = 1.660 \times 10^{-7} (x \text{ ppm})$$

$$E = C F_d \frac{20.9}{20.9\text{-percent } O_2}$$

where: E = pollutant emissions (lbs SO₂/MM Btu)

C = pollutant concentration (lbs SO₂/dscf)

F_d = dry basis F factor, which is the ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted

^jNew source performance standards (40 CFR 60.40 and 60.40a) supersede less stringent State emission limits when applicable to a new combustion source.

Connecticut, New Hampshire, Vermont, New Jersey, New York, Delaware, Maryland, Pennsylvania, Florida, Georgia, Kentucky, Illinois, Michigan, Minnesota, Ohio, Wisconsin, Oklahoma, Texas, Iowa, Colorado, Montana, Utah, Wyoming, Arizona, California, Nevada, Idaho, and Oregon. Other States do not differentiate between fuel types. Finally, most States have the same emission limits for new and existing sources. In seven States, however, the emission limit for new sources is lower than for existing sources. These States include New York, Georgia, Colorado, New Hampshire, Kentucky, Illinois, and Arizona.

Figures 2-1 and 2-2 are histograms describing the numbers of States requiring specific levels of SO_2 control. Figure 2-1 presents the limits that would apply to a boiler burning 250 MM Btu/hr of residual oil. Such a boiler burning oil with 3 percent sulfur would, for example, emit about 3.2 lbs SO_2 /MM Btu and would meet the applicable emission limit in only 8 States.

Figure 2-2 presents the limits that would apply to a boiler burning 250 MM Btu/hr of coal. Since half of the States (25) have limits of less than 3 lbs SO_2 /MM Btu, an average sulfur content of less than about 2 percent would be required to meet the emission limit.

2.3 SO_2 EMISSIONS AND CONTROLS

Approximate ranges of controlled and uncontrolled SO_2 emissions are presented in Table 2-4 for hypothetical coal-fired and oil-fired combustion sources. This table shows that bituminous coal with 3.0 percent average sulfur and a heating value of 11,500 Btu/hr would emit about 5 lbs SO_2 /MM Btu and could meet (on a monthly or annual average) the SO_2 emission limit in about 5 States. This same coal could be physically cleaned to reduce the emission rate (lbs SO_2 /MM Btu) 20 to 50 percent. On a long-term basis, it could then meet the standards of up to 21 States. Various flue gas desulfurization (FGD) systems could be used to reduce SO_2 emissions 90 percent and allow that facility to meet the regulations of most States.

With respect to oil-fired combustion sources, about 2.1 lb SO_2 /MM Btu would be emitted if No. 6 fuel oil at 3.0 percent sulfur were used. Such a source would meet the applicable emission limits in about half of the

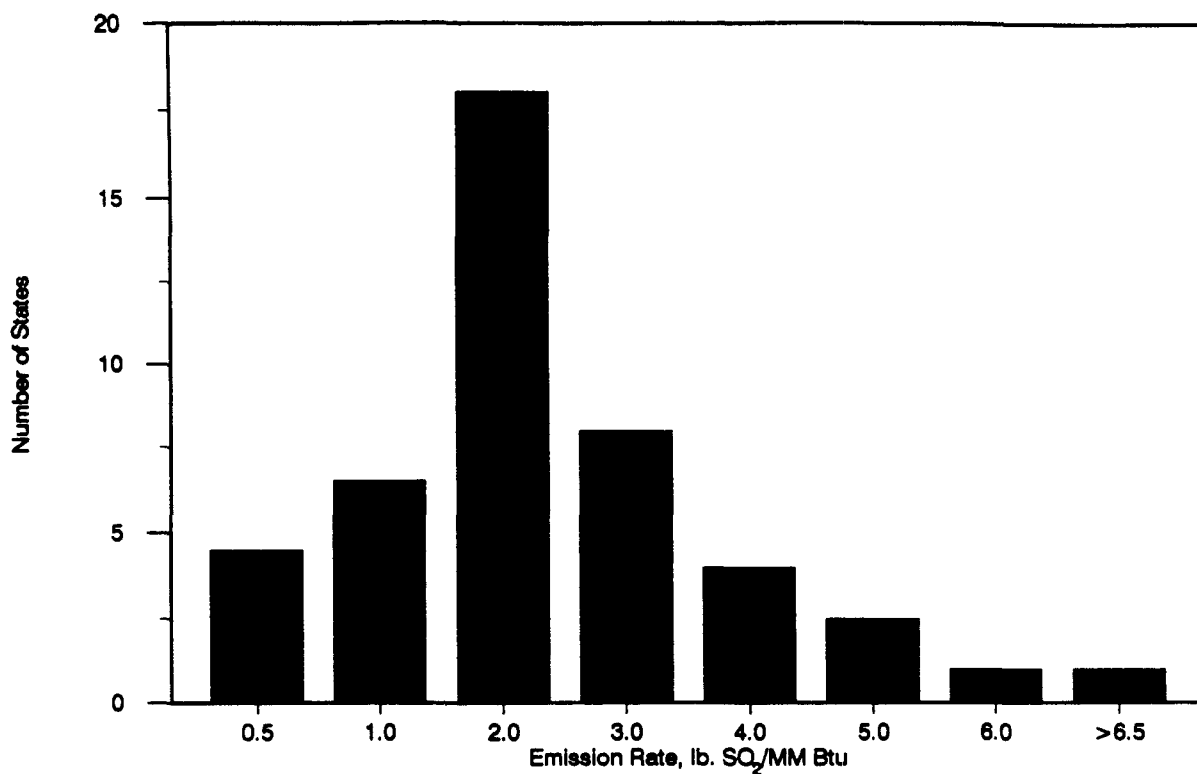


Figure 2-1. Maximum Allowable SO₂ Emission Rate for an Existing 250 MM Btu/hr Residual Oil Fired Boiler

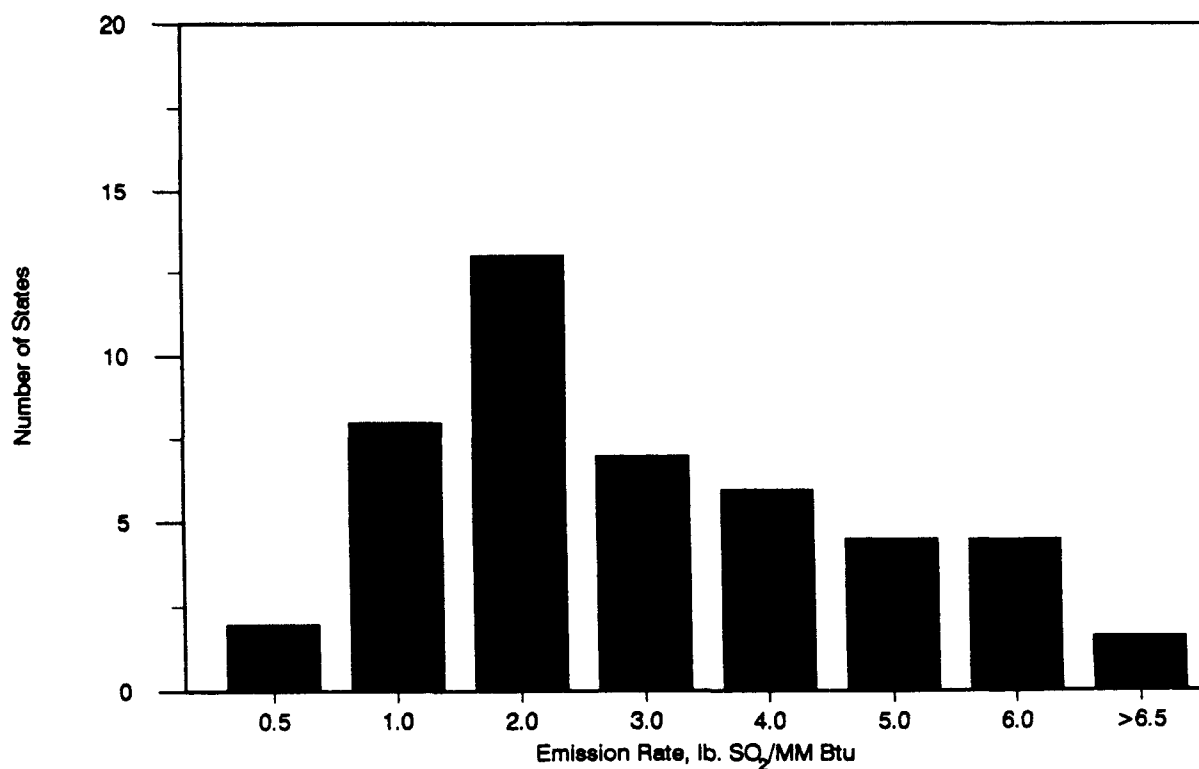


Figure 2-2. Maximum Allowable SO₂ Emission Rate for an Existing 250 MM Btu/hr Coal Fired Boiler

TABLE 2-4. SUMMARY OF SO₂ EMISSION RATES FOR HYPOTHETICAL
COAL-FIRED AND OIL-FIRED COMBUSTION SOURCES

SO ₂ control	Emission Rate (lb SO ₂ /MM Btu)		Control Efficiency (%)	
	Coal-fired unit ^a	Oil-fired unit ^b	Coal-fired unit	Oil-fired unit
None (uncontrolled)	5.0	2.1	N/A ^c	N/A ^c
Physical coal cleaning	2.5 - 4.0	N/A ^c	20 - 50	20 - 50
Limestone FGD	0.25 - 0.75	0.11 - 0.32	85 - 95	85 - 95
Dual alkali FGD	0.25 - 1.5	0.21	90 - 95	90
Dry scrubbing FGD (spray drying)	0.5 - 1.5	0.21 - 0.63	70 - 90	70 - 90

^aEstimates assume bituminous coal at 11,500 Btu/lb and 3.0% S.

^bEstimates assume No. 6 fuel oil at 19,000 Btu/lb and 2.0% S.

^cN/A = not applicable.

States. Application of various FGD systems could reduce SO₂ emissions so that compliance could be achieved in most States. Alternatively, oil cleaning can reduce the sulfur content to 0.5 percent, which would meet the regulations of most States.

3. REGULATION OF SULFUR DIOXIDE EMISSIONS FROM FUEL COMBUSTION

The Clean Air Act Amendments of 1970 (CAA) required each State to prepare a plan indicating how the NAAQS for particulates, sulfur dioxide, nitrogen oxides, ozone, and carbon monoxide would be attained and/or maintained. States adopted regulations limiting sulfur dioxide emissions from fuel combustion in response to this requirement. These sulfur dioxide regulations limited the percent sulfur (by weight) in fuels burned, pounds sulfur or sulfur dioxide emitted per million Btu of heat input to the furnace, and the parts per million (ppm) concentration of sulfur dioxide in the flue gas.

Individual State implementation plans have been revised several times since 1970. In some cases, these revisions have resulted in regulations becoming more site-specific to address localized areas or sources where SO₂ emissions were contributing to nonattainment. A number of States lowered SO₂ emission limits to ensure attainment and/or maintenance of the NAAQS. In some cases, the SO₂ emission did not change, but States added continuous monitoring and amended averaging times to ensure continuous compliance with all the SO₂ NAAQS (particularly the short-term SO₂ NAAQS).

The CAA also required EPA to develop standards of performance for new stationary sources. In response to this requirement, EPA has adopted regulations under Section 111 of the CAA for the following combustion sources of SO₂ emissions: (1) fossil fuel steam generators constructed after August 17, 1971 (40 CFR Subpart D); (2) electric utility steam generating units constructed after September 18, 1978 (40 CFR Subpart Da); (3) industrial boilers (40 CFR Subpart Db); and stationary gas turbines (40 CFR Subpart GG).

3.1 POTENTIAL SO₂ EMISSIONS FROM FUEL COMBUSTION

Sulfur dioxide emissions from combustion of fuels are proportional to the amount of sulfur in the fuel. In the case of fuel oil, it is assumed that all the sulfur in the oil is oxidized during the combustion process and

emitted as sulfur dioxide. Estimates of SO₂ emission rates from fuel oil combustion can generally be made using the following equations.

$$\text{Residual oil} - \text{lbs SO}_2/\text{MM Btu} = 1.05 \times \% \text{ S in fuel}$$

$$\text{Distillate oil} - \text{lbs SO}_2/\text{MM Btu} = 1.0 \times \% \text{ S in fuel}$$

These equations are based on the general assumptions that residual oils have an approximate heating value of 150,000 Btu/gallon and distillate oils have a value of 140,000 Btu/gallon.¹ Thus, combustion of a 2.3 percent sulfur residual oil would have a resultant emission rate of approximately 2.4 lbs SO₂/MM Btu of heat input.

For the combustion of coal, about 5 percent of the coal's sulfur remains in the bottom ash and thus 95 percent is emitted as sulfur dioxide.¹ To estimate the emission rate in lb SO₂/MM Btu, one only needs to know the percent sulfur and the heating value in Btu/lb. The following procedure can then be used for estimation:

$$\text{lbs SO}_2/\text{MM Btu} = \text{CF} \times \% \text{ S in coal}$$

where CF is,

<u>Btu/lb</u>	<u>CF</u>
10,000	1.9
10,500	1.81
11,000	1.73
11,500	1.65
12,000	1.58
12,500	1.52

Thus, a coal of 3 percent sulfur content and a heating value of 11,500 Btu/lb would have an approximate SO₂ emission rate of 5 lbs/MM Btu.

The normal range of SO₂ emissions (lb SO₂/MM Btu) is presented in Table 3-1. The range of emission rates was maximized by assuming the lowest sulfur fuel had the highest heating value and the highest sulfur fuel had the lowest heating value. There is, however, no direct correlation of sulfur content and heating value in nature.

TABLE 3-1. RANGE OF SULFUR CONTENTS, HEATING VALUES AND POTENTIAL
SULFUR DIOXIDE EMISSION RATES FOR TYPICAL FUELS

Fuel	% Sulfur (by weight)	Heating value (Btu/lb as burned)	SO ₂ emissions lb/MM Btu
Pipeline natural gas	Negligible	-	-
Wood - typical	0.02	4,560	0.1
Bark - typical	0.02	4,370	0.1
Distillate oil ²			
#1	0.01 - 0.5	19,670 - 19,860	0.01 - 0.5
#2	0.05 - 1.0	19,170 - 19,750	0.05 - 1.0
#4	0.2 - 2.0	18,280 - 19,400	0.2 - 2
Residual oil ²			
#5	0.5 - 3.0	18,100 - 19,020	0.5 - 3
#6	0.7 - 3.5	17,410 - 18,990	0.7 - 4
Anthracite coal ²	0.6 - 0.8	11,925 - 12,925	0.9 - 1
Bituminous coal ²	0.7 - 6.1	9,700 - 14,715	0.9 - 12
Subbituminous coal ²	0.3 - 0.6	8,320 - 11,340	0.5 - 1
Lignite coal ²	0.4 - 0.9	6,500 - 9,700	0.8 - 3

It can be seen that a low sulfur (.01 percent) distillate oil could yield as little of $0.01 \text{ lb SO}_2/\text{MM Btu}$ of fuel burned while a high sulfur (6.1 percent) bituminous coal could yield as much as $12 \text{ lb SO}_2/\text{MM Btu}$. Wood and bark have very low sulfur contents, as well as low heating values; therefore, SO_2 emission fall in the same range as those from #1 or #2 fuel oil.

3.2 DISCUSSION OF SO_2 EMISSION REGULATIONS

3.2.1 State SO_2 Regulations

Several approaches to regulating SO_2 emissions from fuel combustion have been adopted by States in order to attain and maintain the NAAQS. The regulations applicable in each State are delineated in Chapter 5 along with notes on procedures such as test methods, averaging time, monitoring and reporting requirements used to determine compliance.

A review of Chapter 5 indicates that State SO_2 emission regulations generally limit the amount of SO_2 which can be emitted per million Btu heat input to the furnace ($\text{lb SO}_2/\text{MM Btu}$) or the sulfur content of the fuels which can be burned. The following paragraphs give examples of parameters in different States that affect the stringency of emission limits applicable to an individual source.

The New York State SIP, for example, contains very detailed limits on fuel sulfur content. To determine the limit applicable to a particular source, it is necessary to first know its location (county or municipality). The total heat (Btu/hr) actually being burned in all furnaces at the facility is the next important factor. A facility with 10 MM Btu/hr or less is not regulated. In some areas of the State different limits apply to facilities with total heat input greater than 250 MM Btu/hr. Limits are different for existing sources (constructed before March 15, 1973) and new sources (constructed after March 15, 1973), and for oil and solid fuel. Compliance with the sulfur-in-fuel limits is determined by stack testing (EPA Method 6) and fuel analysis to determine sulfur and ash content, heating value and specific gravity (oil). The gross heat content and ash content of the fuel burned on a weekly basis must be monitored for all

facilities with a total heat input greater than 250 MM Btu/hr. Continuous monitoring of stack SO₂ emissions is required of new facilities with heat input greater than 250 MM Btu/hr.

Pennsylvania regulations limit sulfur-in-fuel and SO₂ emission rate (lb/MM Btu) depending on the location, the design fuel burning capacity of each furnace and the type of fuel burned. An equation dictates the emission limit for furnaces with heat input capacity greater than or equal to 50 MM Btu/hr, but less than 2,000 MM Btu/hr and located in the Allegheny County, Beaver Valley, Monongahela Valley air basin. The allowable SO₂ emission rate for furnaces burning solid fossil fuels varies with averaging time. For example, the measured emission rate must always fall below 4.8 lb SO₂/MM Btu in areas I and II. Also, the average of all readings for one day (24-hour period) must fall below 4.0 lb/MM Btu (except for two days per month) and the emission average over 30 days must fall below 3.7 lb/MM Btu.

In Virginia and Nevada the emission limits (lbs SO₂/hr) are based on equations which are functions of the actual heat input to a single furnace. Compliance is determined in Virginia by stack testing using EPA Method 6 or other State-approved procedures (3 runs) and in Nevada by stack testing using a method specified by the State in the operating permit (2 runs).

Georgia limits the sulfur content of the fuel burned or <2.5 percent for furnaces actually burning less than 100 MM Btu/hr and to ≤3.0 percent for furnaces burning 100 MM Btu/hr or greater of fuel. It also limits the SO₂ emission rate (lb SO₂/MM Btu) based on equations which are functions of the furnace exhaust stack height. The limits based on stack height are not part of the Georgia SIP, however.

Allowable emission rates (lb SO₂/MM Btu) in Kentucky vary with the location (county), facility size (total plant heat input), and type fuel (solid or liquid). The emission rates are determined by equations for facilities larger than 10 MM Btu/hr and smaller than 250 MM Btu/hr. Compliance is determined by stack testing using EPA Method 6.

SO₂ emission concentrations in Louisiana, the State of Washington, and Alaska are limited to ≤2,000 ppm, ≤1,000 ppm, and ≤500 ppm, respectively. These limits apply in all locations, to all size furnaces and all fuels in each case.

3.2.2 Federal SO₂ Regulations

EPA has promulgated standards of performance for the following classes of fuel combustion units: (1) Fossil-Fuel Steam Generating Units >250 MM Btu/hr (which commenced construction after August 17, 1971); (2) Electric Utility Steam Generating Units Capable of Combusting >250 MM Btu/hr (which commenced construction after September 18, 1978); (3) Industrial- Commercial-Institutional Steam Generating Units; and (4) Stationary Gas Turbines. A summary of the provisions of these NSPS is contained in Appendix A.

Subpart D is applicable to all fossil-fuel fired steam generating units and all fossil-fuel and wood residue fired steam generating units capable of burning more than 250 MM Btu/hr of fuel, irrespective of the use of the steam produced. Compliance with the emission limit is determined by continuously monitoring the flue gas and calculating an arithmetic average of the SO₂ emission rate (lb SO₂/MM Btu) for three contiguous one-hour periods.

Subpart Da was designed to update (and supersede) Subpart D for electric utility boilers (with design heat input capacity greater than 250 MM Btu/hr) in accordance with the 1977 Amendments to the CAA. Compliance with this regulation is generally determined by continuously monitoring SO₂ concentrations in the flue gas before and after a flue gas desulfurization system (FGD) and calculating the arithmetic average of all hourly emission rates (lb SO₂/MM Btu) for 30 successive days of normal operation.

Subpart Db is applicable to steam generating units with a heat input capacity greater than 100 MM Btu/hr. Compliance with the emission limit and percent reduction requirement of the standard is determined by continuously monitoring the flue gas and calculating the arithmetic average of all hourly emission rates (lb SO₂/MM Btu) for 30 successive days of normal operation.

Subpart GG is applicable to stationary gas turbines with a heat input greater than 100 MM Btu/hr. The emission limits include a restriction on the sulfur dioxide concentration in the exhaust gas, as well as a limit on

the fuel sulfur content. Compliance is determined by daily monitoring of the fuel sulfur content after an initial performance test shows compliance with the outlet concentration limit.

3.3 REFERENCES

1. U.S. Environmental Protection Agency. Compilation of Air Pollution Emission Factors. AP-42. Office of Air Quality Planning and Standards. Supplement No. 6. April 1976. p. 1.1-1.3.
2. "Steam: It's Generation and Use." Babcock and Wilcox, New York, New York, 1975. p. 5-11 and 5-19.

4. CONTROL OF SO₂ EMISSIONS

There are three basic types of control technologies for reducing SO₂ emissions from combustion sources. These technologies include flue gas desulfurization (FGD), fluidized bed combustion (FBC), and fuel cleaning. Flue gas desulfurization technologies can be classified as either wet or dry, according to the final form of the SO₂-waste generated.

4.1 FLUE GAS DESULFURIZATION (FGD)

4.1.1 Wet FGD Processes

Wet FGD processes use an alkaline solution or slurry to adsorb SO₂ from the combustion unit flue gas. Typically, chemical solutions such as sodium, dual alkali, limestone, or lime are used. In the wet process, the adsorbed SO₂ exits the system either as a liquid waste stream or as a semi-solid waste sludge.

Sodium. Sodium scrubbers represent the most common type of wet FGD process, particularly for industrial boilers. These scrubbers use an aqueous solution of sodium hydroxide (NaOH), sodium carbonate (Na₂CO₃), sodium bicarbonate (NaHCO₃), or a mixture of these to adsorb SO₂. The effectiveness of sodium scrubbers at reducing SO₂ emissions is high. With coal, SO₂ reductions of about 95 to 98 percent can be expected. With oil, SO₂ reductions of about 90 to 95 percent can be expected.¹

Dual alkali. Dual alkali systems use a clear sodium alkali solution to absorb SO₂, followed by a step involving lime or limestone to regenerate the active alkali for SO₂. These systems can achieve SO₂ emission reductions of about 90 to 95 percent for coal-fired systems and about 90 percent for oil-fired systems.¹

Lime/Limestone. These processes employ wet scrubbers using a slurry of slaked lime (Ca(OH)₂) or limestone (CaCO₃) to absorb SO₂ from the flue gas. Typical SO₂ reduction efficiencies for lime/limestone systems range from about 85 to 95 percent.¹

4.1.2 Dry FGD Processes

Dry FGD processes use an alkaline solution or slurry to neutralize SO_2 from the flue gas, whereby the waste product is a dry solid. The most common dry FGD processes are spray drying and dry injection.

Spray drying. This FGD process involves contacting the flue gas with an atomized lime slurry or a solution of sodium carbonate. Generally, spray dryers can achieve SO_2 emission reductions of at least 70 percent and in some cases above 90 percent.¹

Dry injection. This FGD process involves injecting a dry alkaline agent into the flue gas just prior to the particulate control device. The alkaline agent reacts with the SO_2 , forming a solid, which is removed by the particulate matter control device. Dry injection systems have only been implemented in pilot-scale applications for fossil-fuel combustion sources.

4.2 FLUIDIZED BED COMBUSTION (FBC)

Fluidized bed combustion (FBC) is an alternative combustion technique for coal-fired boiler applications. A fluidized bed can increase heat transfer rates, thereby lowering heat transfer surface requirements. Furthermore, limestone added to the combustion bed enables SO_2 to be adsorbed immediately after combustion. Generally, FBC systems can achieve from 55 to over 90 percent SO_2 emission reductions.¹

4.3 FUEL CLEANING

Precombustion control of SO_2 can be accomplished by either physically or chemically treating the fuel to remove sulfur.

4.3.1 Physical Coal Cleaning

Physical coal cleaning involves subjecting the coal to size reduction and screening, separation of coal-rich and impurity-rich fractions, dewatering, and drying. Separation of coal from its impurities is accomplished by gravity separation or froth flotation.

Physical coal cleaning can typically remove above 50 percent of the nonorganic (pyritic) sulfur present in coal. For high sulfur bituminous coal (Midwest, northern Appalachia) about 70 percent of the sulfur can be removed. For low sulfur coal (West, southern Appalachia), about 20 to 30 percent of the sulfur can be removed.¹

4.3.2 Oil Cleaning

The sulfur content of fuel oil can be reduced by hydrodesulfurization or hydrotreating. These processes convert sulfur to gaseous hydrogen sulfide by contacting the oil with hydrogen and a catalyst (usually a composite made up of cobalt oxide, molybdenum oxide, and alumina). These gases are separated from the fuel and then collected. Current techniques can reduce the sulfur content to less than 0.5 percent.²

4.4 REFERENCES

1. U.S. Environmental Protection Agency. SO₂ Technology Update Report. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-450/3-85-009. July 1984.
2. U.S. Environmental Protection Agency. Nonfossil Fuel Fired Industrial Boilers - Background Information. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-450/3-82-007. March 1982.

5. INDIVIDUAL SIP REGULATIONS

The SO₂ emission regulations applicable in each State are delineated in the following pages. The States are presented by EPA Region and then alphabetically by state within each region.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Single fossil fuel or mixture of fuels

Emissions Limits:
(% S) : Less than or equal to 1, by weight (2)

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous S02 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

- (1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) A variance may be allowed during a fuel shortage emergency provided that the emissions do not exceed 1.1 lbs S02/MMBtu heat input.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 {1}

Applicable Area : Statewide; air pollution control/energy trade programs and periods of low sulfur fuel shortage
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Single fossil fuel or mixture of fuels

Emissions Limits:
(% S) : Greater than 1.0, by weight, or
(lb S02/MMBtu) : Less than or equal to 0.55

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous S02 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

{1} The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : Greater than or equal to 0.25
Fuel Type : Fuel containing solid fuel

Emissions Limits:

(% S) : Less than or equal to 1, by weight (2)
(lb SO2/MMBtu) : Less than or equal to 1.1

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

(1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) A variance may be allowed during a fuel shortage emergency provided that the emissions do not exceed 1.1 lbs SO2/MMBtu heat input.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment used primarily for educational or historical demonstrations
Facility Size (MMBtu/hr) : All
Fuel Type : Coal

Emissions Limits:
(% S) : Less than 1.5, by weight, or (2)
(lb SO2/MMBtu) : Less than or equal to 1.1

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

- (1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) Requires Commissioner approval if the sulfur content is greater than 1%, by weight.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning sources with flue gas desulfurization or other sulfur removal processes.
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 1.0, by weight, or
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4d or 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM D-129, or D-1552, or equivalent procedures approved by the Commissioner.]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4d. Averaging Time => 24 hours
4g. Averaging Time => other [Calendar quarter.] (1)
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

(1) The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Metropolitan Portland outside of the Portland Peninsula, Central Maine, Downeast, Aroostook county, and Northwest Maine
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.5, by weight

Compliance Procedures :: 1a, 2b1, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM D-129, or D-1552, or equivalent procedures approved by the Commissioner.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Portland Peninsula
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:

(% S) : Less than or equal to 1.0, by weight.

Compliance Procedures :: 1a, 2b1, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-129, or D-1552, or equivalent procedures approved by the Commissioner.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning sources with flue gas desulfurization or other sulfur removal processes
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.48, calendar quarter average, or
(lb SO₂/MMBtu) : Less than or equal to 2.4, total in 24 hour period

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4d or 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176.]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]
3a. Monitoring Requirements => continuous SO₂ monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4d. Averaging Time => 24 hours
4g. Averaging Time => other [Calendar quarter] {1}
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

(1) The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Central Maine, Downeast, Aroostook county, Northwest Maine, and Metropolitan
Portland outside the Portland Peninsula region.
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation,
percent sulfur and moisture analysis, and gross calorific value
determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Calendar quarter] {1}
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity,
sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

{1} The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May,
June; (3) July, August, September; (4) October, November, December.

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Portland Peninsula
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.48

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Calendar quarter.] {1}
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

{1} The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310 CMR, 7.05 and 7.12

Applicable Area : Metropolitan Boston APCD: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities excluding electric generating facilities greater than or equal to 2.5 billion Btu/hr
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.28 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous S02 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel limitation of 0.55 lb S/MMBtu heat release potential shall be allowed for fossil fuel utilization facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conversion measures.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Berkshire Air Pollution Control District
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels excluding distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD excluding Worcester; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.

Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than 100
Fuel Type : All fossil fuel excluding distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel limit of 1.21 lbs S/MMBtu heat release potential shall be allowed for fossil fuel utilization facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conservation measures.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD excluding Worcester; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.

Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Greater than or equal to 100
Fuel Type : All fossil fuel excluding distillate fuel oil.

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified.]

2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]

3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]

3b. Monitoring Requirements => ambient monitoring or diffusion estimate

3c. Monitoring Requirements => sulfur content of fuel

3d. Monitoring Requirements => quantity of fuel

3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]

4g. Averaging Time => other [Not specified.]

5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Merrimack Valley APCD excluding Lawrence, Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels excluding distillate fuel oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21

Compliance Procedures :: 1e, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Berkshire APCD; Central Massachusetts APCD; Merrimack Valley APCD; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : Distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.17 {1}

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous S02 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

{1} The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD: Worcester, Lawrence; Merrimack Valley APCD: Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Greater than 300
Fuel Type : Residual fuel oil (No. 4, 5, or 6)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

{1} The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Statewide excluding Franklin and Hampshire counties.
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 3.0
Fuel Type : Any residual fuel oil (No. 4, 5, or 6)

Emissions Limits:

(% S) : Not allowed
(lb S/MMBtu) : Not allowed
(ppm SO2) : Not allowed

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified.]

2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]

3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 60, Appendix P]

3b. Monitoring Requirements => ambient monitoring or diffusion estimate

3c. Monitoring Requirements => sulfur content of fuel

3d. Monitoring Requirements => quantity of fuel

3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content for each facility.]

4g. Averaging Time => other [Not specified.]

5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this, shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Franklin and Hampshire counties
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 100
Fuel Type : Any residual fuel oil (No. 4, 5, or 6)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 (1)

Compliance Procedures :: 1a, 2b4, 3b, 3c, 3d, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Merrimack Valley APCD: Lawrence, Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : Coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1a, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel utilization limit of 1.21 lbs S/MMBtu heat release potential shall be allowed for facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conservation measures.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Metropolitan Boston APCD: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown
Applicable Time Frame : Global
Facility Type : Electric generating facilities
Facility Size (MMBtu/hr) : Greater than or equal to 2500
Fuel Type : Any fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1a, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b, 5c
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous S02 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]
5c. Reporting => specified in 40 CFR Part 51 [Appendix P]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Hand-fired fuel burning utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 0.15 MMBtu/hr.
Fuel Type : Solid fossil fuel

Emissions Limits:
(% S) : Not allowed
(lb S/MMBtu) : Not allowed
(ppm SO2) : Not allowed

Compliance Procedures :: 1a, 2b4, 3b, 3c, 3d, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 2 fuel oil

Emissions Limits:
(% S) : Less than or equal to 0.40, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

SO2 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 4 fuel oil

Emissions Limits:
(% S) : Less than or equal to 1.0, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide excluding Androscoggin Valley AQCR
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 5 and no. 6 fuel oil, and crude oil (distillate oil)

Emissions Limits:
(% S) : Less than or equal to 2.0, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor is required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

SO2 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Androscoggin Valley AQCR
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 5 and no. 6 fuel oil, and crude oil (distillate oil)

Emissions Limits:
(% S) : Less than or equal to 2.2, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor is required to test viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Gaseous fossil fuel (natural and manufactured)

Emissions Limits:
(ppm SO2) : Less than or equal to 5 gr/100 ft3, calculated as H2S at standard conditions

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Before 04/15/70
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel (coal)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 2.8, gross heat content, and less than or equal to 2.0,
gross heat content for a trimonthly period.

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples
shall be carried out in accordance with the most recent ASTM methods, or
equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required
from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur
content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a
report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : After 04/15/70
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel (coal)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.5, gross heat content.

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with stack cleaning devices
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel except fuel oil

Emissions Limits:
(lb S/MMBtu) : Greater than 0.55, heat release potential {1}
(lb SO2/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 3c, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance.]

Footnotes:
{1} Requires Director approval.

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with stack cleaning devices
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(% S) : Greater than 1.0 (1)
(lb SO2/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 3c, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55, heat release potential

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuels must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3e. Monitoring Requirements => other [Requirements specified in the "Rhode Island Guideline for Air Quality Monitoring"]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Coal

Emissions Limits:

(% S) : Greater than or equal to 1.0, by weight.
(lb S/MMBtu) : Less than or equal to 1.21, heat release potential, (thirty day period), or Less than or equal to 2.31, heat release potential, (twenty-four hour period).

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuels must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3e. Monitoring Requirements => other [Requirements specified in the "Rhode Island Guideline for Air Quality Monitoring".]
4g. Averaging Time => other [Thirty day or twenty four hour period.]
5b. Reporting => state regulation [No. 14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. Quarterly reports stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation for each unit.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 14 and 20

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : Greater than 1.0
Fuel Type : Alternate fuel

Emissions Limits:
(% S) : Less than 1.0, by weight.

Compliance Procedures :: 1e, 2b1, 2b4, 2c, 3c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2b1. Test Methods => fuel testing: ASTM [D-1552]
2b4. Test Methods => fuel testing: other [Heavy metals, flash point, viscosity, percent solids, H2O, and ash, and any hazardous components suspected of being present in the material.]
2c. Test Methods => other testing [Sampling and analysis procedures according to Title 23, Chapter 20, Appendix B, of the state regulations.]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [Compliance with all applicable rules and regulations of the Division of Air and Hazardous Materials.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.20.9; Records maintained for three years to include the feed rates of fuel, fuel vendor and sampling data, and fuel delivery information.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulation 8

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices without stack cleaning devices or emission bubbles.
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels except fuel oil and coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55, heat release potential

Compliance Procedures :: 1e, 2a, 2b4, 3c, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam
generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to
ASTM methods which have prior approval or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes,
fuel usage, source emissions, generator capacities, types of equipment
producing air contaminants, and other data that may be necessary to
determine if the source is in compliance.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulation 8

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices without stack cleaning devices or emission bubbles.
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(% S) : Less than or equal to 1.0

Compliance Procedures :: 1e, 2a, 2b4, 3c, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam
generating units, and Method 20 for stationary gas turbines]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to
ASTM methods which have prior approval or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes,
fuel usage, source emissions, generator capacities, types of equipment
producing air contaminants and other data that may be necessary to determine
if the source is in compliance.]

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with emission bubbles
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel excluding fuel oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21, heat release potential, and {1}
(lb SO2/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3b, 3c, 3d, 3e, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
2c. Test Methods => other testing [Type of fuel, sulfur content, maximum rated gross heat input for each unit, stack height, stack exit velocity and temperature, monitoring, and modeling.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Aerodynamic downwash modeling.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [Type of fuel, operating hours, stack gas exit temperature and velocity.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. A quarterly report stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation for each unit.]

Footnotes:
{1} Requires Director approval.

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with emission bubbles
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21, heat release potential. {1}

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3c, 3d, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
2c. Test Methods => other testing [Stack testing, or with the approval of the Director, fuel testing. Modeling requirements as specified in the "Rhode Island Guideline for Air Quality Modeling".]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Thirty month limit.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. A quarterly report stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation of each unit.]

Footnotes:
{1} Requires Director approval.

S02 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter II, sections 221, 252, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning installations excluding gas turbine generators
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.0 (1)
(lb SO₂/MMBtu) : Less than or equal to 0.8

Compliance Procedures :: 1a, 2a, 3b, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Emissions testing is required to demonstrate the reduction of sulfur levels to be no greater than emissions from burning two percent sulfur fuel.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [Monitoring may be required. APCO may require stack tests as specified in 40 CFR part 60.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:
(1) When low sulfur fuel is not available, the Secretary may permit the use of fuel containing up to 2.2% sulfur.

S02 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter II, sections 221, 252, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning installations excluding gas turbine generators
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Solid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.0 (1)
(lb SO₂/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1a, 2a or 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Emissions testing is required to demonstrate reduction of sulfur levels to be no greater than emissions from burning two percent sulfur fuel.]
2b4. Test Methods => fuel testing: other [May be required.]
3e. Monitoring Requirements => other [Monitoring may be required. APCO may require stack tests as specified in 40 CFR part 60.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions, and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:

(1) When low sulfur fuel is not available, the Secretary may permit the use of fuel containing up to 2.2% sulfur.

S02 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter II, sections 221, 261, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Waste oil

Emissions Limits:
(% S) : Less than or equal to 2.0 (1)

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3d, 3e, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Other source testing may be required in accordance with methods acceptable to the APCO.]
2b4. Test Methods => fuel testing: other [PCB's, total organic halogens, total inorganic chloride, lead, heat of combustion, and flash point.]
2c. Test Methods => other testing [Combustion efficiency of equipment.]
3d. Monitoring Requirements => quantity of fuel [May be required.]
3e. Monitoring Requirements => other [Compliance testing according to section 5-261 (Control of Hazardous Air Contaminates). A permit to burn is required for sources greater than 1,000,000 MMBtu/hr. For sources greater than 10,000,000 MMBtu/hr written notice must be made to the APCO prior to the date of the initial burn.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:

(1) When low sulfur fuel is not available the Secretary may permit the use of fuel containing 2.2% sulfur.

Analysis of State and Federal Sulfur Dioxide Emission Regulations for Combustion Sources (Revised)

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1. INTRODUCTION

State Implementation Plan (SIP) regulations and Federal new source performance standards (NSPS) pertaining to sulfur dioxide (SO_2) emissions from fuel combustion have been compiled and summarized in this report. The source categories to which the regulations apply are broadly defined as indirect and direct heat exchangers: primarily steam generators or boilers. Regulations applicable specifically to incineration of solid waste or to processes which include fuel combustion (cement kiln, lime calciner, etc.) were not included in this compilation.

This report can be used as a quick reference to estimating SO_2 emission rates, assessing ranges of SO_2 control, and quantifying the relative stringency of SO_2 emission limits. It was developed to serve as a starting point for broad control strategy evaluations and is not intended to be a precise reference for individual compliance determinations. The EPA recognizes that many States have SIP-approved limits for specific sources. Users are cautioned to contact the appropriate State and/or local air pollution control agency and EPA Regional Office to verify the specific SO_2 emission limit that is applicable to an individual source.

Sulfur dioxide regulations vary among the States and even within an individual State. Different emission limitations may apply depending on such parameters as facility size, fuel type, geographical location, and age of source. Included in this report are all the important factors that determine the applicability of a particular emission limit. Such factors (actual or rated heat input, test method, and length of time over which emissions are averaged) have a significant influence on the stringency of the emission limit.

The remainder of this report is organized as follows. Chapter 2 provides an overview of SO_2 emission regulations and briefly contrasts the basis for emission limits among each State. It also identifies typical uncontrolled and controlled emission levels. Chapter 3 discusses in considerable detail the potential SO_2 emissions from fuel combustion, as well as the various aspects of State and Federal SO_2 emission regulations. Chapter 4 describes the performance of available SO_2 control techniques.

Chapter 5 contains information on the applicability, emission limits, and compliance methods for each State SO₂ regulation. A summary of the major provisions of several Federal NSPS affecting SO₂ emissions from fuel combustion is provided in Appendix A.

2. SUMMARY

SO₂ emission limits for fuel combustion sources have been incorporated into SIPs as part of control strategies designed to provide for the attainment and maintenance of national ambient air quality standards (NAAQS) for SO₂. The form, stringency, and applicability of these emission limits often depended upon parameters such as fuel type, facility size, and method of determination (actual or design heat input), geographical location, and age of source. This chapter summarizes the basis for emission limits among States, compares the stringency of SO₂ emission limits, and discusses typical uncontrolled and controlled emission rates from fuel combustion sources.

2.1 BASIS FOR EMISSION LIMITS

Table 2-1 delineates the parameters upon which SO₂ emission limits for each State are based. This section discusses similarities in the basis and format of State SO₂ emission regulations.

Twenty-eight States have emission limits that depend on fuel type. In most cases, the difference in emission limits is based solely upon whether solid or liquid fuel is used. Some States, however, make further distinctions in emission limits based on the type of fuel oil (e.g., residual or distillate) and type of coal (e.g., anthracite or bituminous) that is used.

With respect to emission limit format, most State rules restrict the pounds of SO₂ that can be emitted per million Btu heat input to the furnace (e.g., lb SO₂/MM Btu) or restrict the sulfur content of fuels allowed to be burned (e.g., % sulfur, by weight). Twenty-two States have emission rate limits only, while 3 States have sulfur-content limits only and 21 States allow compliance with either an emission rate or a sulfur content limit. Only four States have an emission limit based on exhaust gas SO₂ concentration.

Facility size dictates the emission limit in 29 States. The most common size cutoff is 250 MM Btu/hr. However, a number of States also include different emission limits at cutoff points below 250 MM Btu/hr, such

Table 2-1. Basis for SIP SO₂ Emission Limitations in the United States*
(Applicable to fuel combustion sources)

EPA Region	State	Attain NAAQS for SO ₂	Dependent Fuel Type	Emission Rate Format (lb/MMBtu)	Fuel Sulfur Content Format (% S)	Emission Concentration Format (ppm)	Facility Heat Input Determination		Facility Size	Dependent on Date Construction Commenced		Emission Limit by County	Emission Limit by City	Emission Limit by Area
							Actual	Design		New Source	Existing Source			
1	Connecticut	•	•	•	•		•							
	Maine	•		•	•			•						•
	Massachusetts	•		•	•			•					•	•
	New Hampshire	•	•	•	•					•	•			•
	Rhode Island	•		•	•		•							
	Vermont	•	•	•	•			•	•					
2	New Jersey	•	•	•	•			•	•	•	•	•	•	
	New York	•	•	•	•		•		•	•	•	•	•	
3	Delaware	•	•	•	•		•		•	•	•	•		
	Washington, D.C.	•			•			•						
	Maryland	•	•	•	•		•		•					•
	Pennsylvania	•	•	•	•			•					•	•
	Virginia	•		•	•		•		•		•	•		•
	West Virginia	•		•	•		•		•		•	•		•
	Alabama	•		•	•			•	•					•
4	Florida	•	•	•			•		•	•	•	•		
	Georgia	•	•		•		•		•					
	Kentucky	•	•	•			•		•	•	•			
	Mississippi	•		•	•				•	•				
	North Carolina	•		•	•			•						
	South Carolina	•		•	•			•	•	•	•			
	Tennessee	•		•	•			•	•	•	•			
	Illinois	•	•	•				•	•	•	•	•	•	•
5	Indiana	•		•				•	•					•
	Michigan	•	•	•	•			•	•					
	Minnesota	•	•	•				•	•					•
	Ohio	•	•	•	•			•	•		•			
	Wisconsin	•	•	•	•			•	•	•		•	•	•

* Excluding New Source Performance Standards Criteria.

Table 2-1. Continued

EPA Region	State	Attain NAAQS for SO ₂	Dependent Fuel Type	Emission Rate Format (lb/MMBtu)	Fuel Sulfur Content Format (% S)	Emission Concentration Format (ppm)	Facility Heat Input Determination		Facility Size	Dependent on Date Construction Commenced		Emission Limit by County	Emission Limit by City	Emission Limit by Area
							Actual	Design		New Sources	Existing Sources			
6	Arkansas	•		•						•				
	Louisiana	•				•								
	New Mexico	•		•				•	•	•	•			
	Oklahoma	•	•	•				•	•	•	•			
	Texas	•	•	•		•	•			•	•	•		
7	Iowa	•	•	•				•	•	•	•	•		
	Kansas	•		•	•			•	•	•	•			
	Missouri	•		•			•	•	•				•	•
	Nebraska	•		•				•			•			
	Colorado	•	•	•				•	•	•	•			
8	Montana	•	•	•	•		•							
	North Dakota	•		•				•						
	South Dakota	•		•				•						
	Utah	•	•	•	•		•							
	Wyoming	•	•	•				•	•	•	•			
	Arizona	•	•	•				•		•	•	•		•
	California†	•	•	•	•		•							
9	Hawaii	•			•									
	Nevada	•	•	•			•	•	•	•	•			
	Alaska	•				•	•	•						
	Idaho	•	•		•		•	•						
10	Oregon	•	•	•	•				•	•				•
	Washington	•				•								

* Excluding New Source Performance Standards criteria.
† Each Air Pollution Control District has individual criteria for fuel burning regulations. For summary purposes, "typical" criteria is specified.

as 10 MM Btu/hr and 100 MM Btu/hr. In general, larger facilities must comply with lower emission limits.

About half of the States list separate emission limits for new and existing sources. However, only seven States actually have different limits for new versus existing sources. In these cases, the emission limits for new sources are lower than for existing sources.

Finally, about half of the States have different emission limits depending on geographical location. Area designations on which these limits are based include political boundaries (such as counties or cities).

2.2 EMISSION LIMIT COMPARISON

Comparisons of the most representative SIP emission limits for each State are presented in common units of pounds sulfur dioxide per million Btu heat input ($\text{lb SO}_2/\text{MM Btu}$) in Tables 2-2 and 2-3 for residual fuel oil and solid fossil fuels, respectively. For purposes of comparison, the most representative emission limits were assumed to be those that would be applicable over the largest area of the State. This assumption is reasonable from a nationwide standpoint, but it does tend to misrepresent those States where the majority of SO_2 sources are confined to a small area where a specific SO_2 emission limit applies. In some cases, an emission limit greater than that allowed under the Federal NSPS is listed in Table 2-2 and 2-3. This higher limit is shown because it could apply to a wider variety of sources than those defined under applicable NSPS. However, it should be understood that the NSPS would supersede less stringent SIP limits when a source is subject to both regulations.

Overall review of the information contained in Tables 2-2 and 2-3 reveals the following information regarding SO_2 emission limits. First, within a specific State there is generally no variation in allowable emissions due to facility size (MM Btu/hr). Exceptions to this rule are States such as Kentucky and Nevada, which specify emission limits by equations, and New York, Vermont, Georgia, Illinois, Michigan, Colorado, and Hawaii, which have lower limits for sources greater than 250 MM Btu/hr compared to smaller sources. Second, emission limits for residual oil are more stringent than those for coal in a number of States such as

TABLE 2-2. REPRESENTATIVE STATE SULFUR DIOXIDE EMISSIONS LIMITATIONS
FOR FACILITIES BURNING #5 OR #6 FUEL OIL
(lbs SO₂/MM Btu)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
1	<u>Connecticut:</u>					
	Existing	0.55	0.55	0.55	0.55	0.55
	New	0.55	0.55	0.55	0.55	0.55
	<u>Maine^{a,j}:</u>					
	Existing	2.4	2.4	2.4	2.4	2.4
	New	2.4	2.4	2.4	2.4	2.4
	<u>Massachusetts^{b,c,j}:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>New Hampshire^{a,j}:</u>					
	Existing	2.1	2.1	2.1	2.1	2.1
	New	2.1	2.1	2.1	2.1	2.1
	<u>Rhode Island^j:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Vermont:</u>					
	Existing	3.48 ^a	3.48 ^a	3.48 ^a	0.8	0.8
	New	3.48 ^a	3.48 ^a	3.48 ^a	0.8	0.8
2	<u>New Jersey^{b,j}:</u>					
	Existing	1.05	1.05	1.05	1.05	1.05
	New	1.05	1.05	1.05	1.05	1.05
	<u>New York^a:</u>					
	Existing	2.1	2.1	2.1	2.1	2.1
	New	2.1	2.1	2.1	0.77	0.77
3	<u>Delaware^{a,b,j}:</u>					
	Existing	1.8	1.8	1.8	1.8	1.8
	New	1.8	1.8	1.8	1.8	1.8
	<u>Maryland^{a,b,j}:</u>					
	Existing	N.A. ^d	2.1	2.1	2.1	2.1
	New	N.A. ^d	2.1	2.1	2.1	2.1
	<u>Pennsylvania^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Virginia^j:</u>					
	Existing	2.64	2.64	2.64	2.64	2.64
	New	2.64	2.64	2.64	2.64	2.64
	<u>District of Columbia^{a,j}:</u>					
	Existing	1.05	1.05	1.05	1.05	1.05
	New	1.05	1.05	1.05	1.05	1.05

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
4	<u>West Virginia^j:</u>					
	Existing	1.6	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6
	<u>Alabama^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Florida^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	2.75 ^d	2.75 ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Georgia^{f,j}:</u>					
	Existing	2.6	3.1	3.1	3.1	3.1
	New	2.6	3.1	0.8	0.8	0.8
	<u>Kentucky^b:</u>					
	Existing	6.0	4.49	4.0	4.0 ^h	4.0 ^h
	New	N.A. ^d	1.17	0.8	N.A. ^h	N.A. ^h
	<u>Mississippi^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	4.8	4.8	4.8	4.8	4.8
	<u>North Carolina^j:</u>					
	Existing	2.3	2.3	2.3	2.3	2.3
	New	2.3	2.3	2.3	2.3	2.3
	<u>South Carolina^j:</u>					
	Existing	3.5	3.5	3.5	3.5	3.5
	New	3.5	3.5	3.5	3.5	3.5
	<u>Tennessee^{e,j}:</u>					
	Existing	5.0	5.0	5.0	5.0	5.0
	New	5.0	5.0	5.0	5.0	5.0
5	<u>Illinois^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	1.0	1.0	1.0	1.0	1.0
	<u>Indiana^j:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	6.0	6.0
	<u>Michigan^j:</u>					
	Existing	1.7	1.7	1.7	1.1	1.1
	New	1.7	1.7	1.7	1.1	1.1
	<u>Minnesota^{e,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>Ohio^{e,j}:</u>					
	Existing	N.A. ^d	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
6	<u>Wisconsin^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.8	0.8
	<u>Arkansas^h:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Louisiana^{i,j}:</u>					
	Existing	4.6	4.6	4.6	4.6	4.6
	New	4.6	4.6	4.6	4.6	4.6
	<u>New Mexico:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Oklahoma:</u>					
	Existing	0.8	0.8	0.8	0.8	0.8
	New	0.8	0.8	0.8	0.8	0.8
	<u>Texas^{e,i,j}:</u>					
	Existing	0.94	0.94	0.94	0.94	0.94
	New	0.94	0.94	0.94	0.94	0.94
7	<u>Iowa^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
	<u>Kansas^j:</u>					
	Existing	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	New	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	<u>Missouri^j:</u>					
	Existing	8.0	8.0	8.0	8.0	8.0
	New	8.0	8.0	8.0	8.0	8.0
	<u>Nebraska^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
8	<u>Colorado:</u>					
	Existing	1.5	1.5	1.5	0.8	0.8
	New	0.8	0.8	0.3	0.3	0.3
	<u>Montana^{c,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>North Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0

(continued)

TABLE 2-2. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
9	<u>South Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
	<u>Utah^{c,j}:</u>					
	Existing	1.7	1.7	1.7	1.7	1.7
	New	1.7	1.7	1.7	1.7	1.7
	<u>Wyoming:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.8	0.8
	<u>Arizona:</u>					
	Existing	N.A.	N.A.	2.2	2.2	2.2
	New	N.A.	N.A.	N.A.	N.A.	N.A.
	<u>California^{a,b}:</u>					
	Existing	0.53	0.53	0.53	0.53	0.53
	New	0.53	0.53	0.53	0.53	0.53
	<u>Hawaii^{a,j}:</u>					
	Existing	2.1	2.1	0.5	0.5	0.5
	New	2.1	2.1	0.5	0.5	0.5
	<u>Nevada^{c,j}:</u>					
	Existing	0.7	0.7	0.4	0.4	0.4
	New	N.A.	N.A.	N.A.	N.A.	N.A.
10	<u>Alaska^{i,j}:</u>					
	Existing	1.14	1.14	1.14	1.14	1.14
	New	1.14	1.14	1.14	1.14	1.14
	<u>Idaho^{a,j}:</u>					
	Existing	1.85	1.85	1.85	1.85	1.85
	New	1.85	1.85	1.85	1.85	1.85
	<u>Oregon^{a,j}:</u>					
	Existing	1.85	1.85	1.85	1.85	1.85
	New	1.85	1.85	1.85	1.85	1.85
	<u>Washington^{i,j}:</u>					
	Existing	2.29	2.29	2.29	2.29	2.29
	New	2.29	2.29	2.29	2.29	2.29

^aEmissions limitation is expressed in percent sulfur content of the fuel. Conversion to lbs SO₂/MM Btu is based on the assumptions of 100 percent conversion of sulfur to sulfur dioxide, and a heating value of 19,000 Btu/lb (residual oil). The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = \frac{1,000,000 \text{ Btu/MM Btu}}{\text{Heating Value (Btu/lb)}} \times (\%S) (2 \text{ lbs SO}_2\text{/lb S)}$$

^bEmissions limitations were not expressed for the entire state. The median value was selected for comparison.

^cEmissions limitations were expressed as lb S/MM Btu. The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = 2 \times (\text{lbs S/MM Btu})$$

TABLE 2-2. (Continued)

- ^dRefers to "Not Applicable" for comparison purposes only. Either SO₂ emissions are not regulated in that State for a specific size category or for other reasons cannot be specified.
- ^eEmissions limitations are expressed for individual sources and counties. The value shown represents only limitations that apply to the largest area of state.
- ^fThe State regulation limits both fuel sulfur content and the SO₂ emissions rate depending on stack height. However, only the limits on fuel sulfur content are included in the SIP.
- ^gEmissions limitations are based on effective stack height for entire plant (equation).
- ^hEmissions limitations are based on federal regulations.
- ⁱEmissions limitation is expressed in parts per million (ppm). Conversion to lbs SO₂/MM Btu was based on the assumptions that F factors (dry basis) were 9,820 dscf/MM Btu (coal) and 9,220 dscf/MM Btu (oil), and a 6 percent oxygen content in the flue gas. The following equations calculate the equivalent emission rate at standard temperature (20°C or 68°F) and pressure 760 MM Hg or 29.92 in. Hg):
- $$C = 1.660 \times 10^{-7} \text{ (x ppm)}$$
- $$E = C F_d \frac{20.9}{20.9 - \text{percent O}_2}$$
- where: E = pollutant emissions (lbs SO₂/MM Btu)
 C = pollutant concentration (lbs SO₂/dscf)
 F_d = dry basis F factor, which is the ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted
- ^jNew source performance standards (40 CFR 60.40 and 60.40a) supersede less stringent State emission limits when applicable to a new combustion source.

TABLE 2-3. REPRESENTATIVE STATE SULFUR DIOXIDE EMISSIONS LIMITATIONS
FOR FACILITIES BURNING SOLID FOSSIL FUEL
(lbs SO₂/MM Btu)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
1	<u>Connecticut:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Maine^{a,j}:</u>					
	Existing	2.4	2.4	2.4	2.4	2.4
	New	2.4	2.4	2.4	2.4	2.4
	<u>Massachusetts^{b,c}:</u>					
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>New Hampshire^j:</u>					
	Existing ^a	5.6	5.6	5.6	5.6	5.6
	New ^c	3.0	3.0	3.0	3.0	3.0
	<u>Rhode Island^j:</u>			.		
	Existing	1.1	1.1	1.1	1.1	1.1
	New	1.1	1.1	1.1	1.1	1.1
	<u>Vermont:</u>					
	Existing	3.3	3.3	3.3	1.2	1.2
	New	3.3	3.3	3.3	1.2	1.2
2	<u>New Jersey^b:</u>					
	Existing	0.3	0.3	0.3	0.3	0.3
	New	0.3	0.3	0.3	0.3	0.3
	<u>New York^a:</u>					
	Existing	N.A. ^d	4.13	4.13	4.13	4.13
	New	N.A. ^d	4.13	4.13	1.04	1.04
3	<u>Delaware^{a,b,j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Maryland^{b,j}:</u>					
	Existing	N.A. ^d	3.5	3.5	3.5	3.5
	New	N.A. ^d	3.5	3.5	3.5	3.5
	<u>Pennsylvania^j:</u>					
	Existing	4.8	4.8	4.8	4.8	4.8
	New	4.8	4.8	4.8	4.8	4.8
	<u>Virginia^j:</u>					
	Existing	2.64	2.64	2.64	2.64	2.64
	New	2.64	2.64	2.64	2.64	2.64
	<u>District of Columbia^{a,j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
4	<u>West Virginia^j:</u>					
	Existing	1.6	1.6	1.6	1.6	1.6
	New	1.6	1.6	1.6	1.6	1.6
	<u>Alabama^j:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Florida^e:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	6.17 ^d	6.17 ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Georgia^{f,j}:</u>					
	Existing	4.1	5.0	5.0	5.0	5.0
	New	4.1	5.0	1.2	1.2	1.2
	<u>Kentucky:</u>					
	Existing	9.0	6.73	6.0	6.0	6.0
	New	5.0	1.8	1.20	0.65	0.23
	<u>Mississippi^j:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	4.8	4.8	4.8	4.8	4.8
	<u>North Carolina^j:</u>					
	Existing	2.3	2.3	2.3	2.3	2.3
	New	2.3	2.3	2.3	2.3	2.3
	<u>South Carolina^j:</u>					
	Existing	3.5	3.5	3.5	3.5	3.5
	New	3.5	3.5	3.5	3.5	3.5
	<u>Tennessee^{e,j}:</u>					
	Existing	5.0	5.0	5.0	5.0	5.0
	New	5.0	5.0	5.0	5.0	5.0
5	<u>Illinois:</u>					
	Existing	6.8	6.8	6.8	N.A. ^g	N.A. ^g
	New	1.8	1.8	1.8	1.2	1.2
	<u>Indiana^j:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	6.0	6.0
	<u>Michigan^j:</u>					
	Existing	2.4	2.4	2.4	1.6	1.6
	New	2.4	2.4	2.4	1.6	1.6
	<u>Minnesota^{e,j}:</u>					
	Existing	4.0	4.0	4.0	4.0	4.0
	New	4.0	4.0	4.0	4.0	4.0
	<u>Ohio^{b,j}:</u>					
	Existing	3.6	3.6	3.6	3.6	3.6
	New	3.6	3.6	3.6	3.6	3.6

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
6	<u>Wisconsin^g:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	<u>Arkansas^h:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
	<u>Louisiana^{i,j}:</u>					
	Existing	4.6	4.6	4.6	4.6	4.6
	New	4.6	4.6	4.6	4.6	4.6
	<u>New Mexico:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	New	N.A. ^d	N.A. ^d	N.A. ^d	1.2	1.2
	<u>Oklahoma:</u>					
	Existing	1.2	1.2	1.2	1.2	1.2
	New	1.2	1.2	1.2	1.2	1.2
	<u>Texas^{e,j}:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
7	<u>Iowa:</u>					
	Existing	6.0	6.0	6.0	6.0	6.0
	New	6.0	6.0	6.0	N.A. ^d	N.A. ^d
	<u>Kansas^j:</u>					
	Existing	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	New	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c	3.0 ^c
	<u>Missouri^j:</u>					
	Existing	8.0	8.0	8.0	8.0	8.0
	New	8.0	8.0	8.0	8.0	8.0
	<u>Nebraska^j:</u>					
	Existing	2.5	2.5	2.5	2.5	2.5
	New	2.5	2.5	2.5	2.5	2.5
8	<u>Colorado:</u>					
	Existing	1.8	1.8	1.8	1.2	1.2
	New	1.2	1.2	1.2	0.4	0.4
	<u>Montana^{c,j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>North Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0

(continued)

TABLE 2-3. (Continued)

EPA Region	State	Facility Size (MM Btu/hr Heat Input)				
		10	100	250	1,000	10,000
9	<u>South Dakota^j:</u>					
	Existing	3.0	3.0	3.0	3.0	3.0
	New	3.0	3.0	3.0	3.0	3.0
	<u>Utah^{c, j}:</u>					
	Existing	2.0	2.0	2.0	2.0	2.0
	New	2.0	2.0	2.0	2.0	2.0
	<u>Wyoming:</u>					
	Existing	N.A. ^d	N.A. ^d	N.A. ^d	1.2	0.3
	New	N.A. ^d	N.A. ^d	N.A. ^d	0.2	0.2
	<u>Arizona:</u>					
	Existing	1.0	1.0	1.0	1.0	1.0
	New	0.8	0.8	0.8	0.8	0.8
	<u>California^{a, b}:</u>					
	Existing	0.83	0.83	0.83	0.83	0.83
	New	0.83	0.83	0.83	0.83	0.83
	<u>Hawaii^{a, j}:</u>					
	Existing	3.3	3.3	0.83	0.83	0.83
	New	3.3	3.3	0.83	0.83	0.83
	<u>Nevada^c:</u>					
	Existing	0.7 ^d	0.7 ^d	0.6 ^d	0.6 ^d	0.6 ^d
	New	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d	N.A. ^d
10	<u>Alaskaⁱ:</u>					
	Existing	1.14	1.14	1.14	1.14	1.14
	New	1.14	1.14	1.14	1.14	1.14
	<u>Idaho^{a, j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Oregon^{a, j}:</u>					
	Existing	1.65	1.65	1.65	1.65	1.65
	New	1.65	1.65	1.65	1.65	1.65
	<u>Washington^{i, j}:</u>					
	Existing	2.29	2.29	2.29	2.29	2.29
	New	2.29	2.29	2.29	2.29	2.29

^aEmissions limitation is expressed in percent sulfur content of the fuel. Conversion to lbs SO₂/MM Btu was based on the assumptions of 95 percent conversion of sulfur to sulfur dioxide, and a heating value of 11,500 Btu/lb (coal). The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = .95 \frac{1,000,000 \text{ Btu/MM Btu}}{\text{Heating Value (Btu/lb)}} \times (\%S) (2 \text{ lbs SO}_2\text{/lb S)}$$

^bEmissions limitations were not expressed for the entire state. The median value was selected for comparison.

^cEmissions limitations were expressed as lb S/MM Btu. The following equation calculates the equivalent emission rate:

$$\text{Emission Rate (lbs SO}_2\text{/MM Btu)} = 2 \times (\text{lbs S/MM Btu})$$

TABLE 2-3. (Continued)

^dRefers to "Not Applicable" for comparison purposes. Either emission were not regulated in that State for a specific size category or for other reason specified.

^eEmissions limitations are expressed for individual sources and counties. The value shown represents only limitations that apply to the largest area of state.

^fThe State regulation limits both fuel sulfur content and the SO₂ emissions rate depending on stack height. However, only the limits on fuel sulfur content are included in the SIP.

^gEmissions limitations are based on effective stack height for entire plant (equation).

^hEmissions limitations are based on federal regulations.

ⁱEmissions limitation is expressed in parts per million (ppm). Conversion to lbs SO₂/MM Btu was based on the assumptions that F factors (dry basis) were 9,820 dscf/MM Btu (coal) and 9,220 dscf/MM Btu (oil), and a 6 percent oxygen content in the flue gas. The following equations calculate the equivalent emission rate at standard temperature (20°C or 68°F) and pressure 760 mm Hg or 29.92 in. Hg):

$$C = 1.660 \times 10^{-7} \text{ (x ppm)}$$

$$E = C F_d \frac{20.9}{20.9\text{-percent O}_2}$$

where: E = pollutant emissions (lbs SO₂/MM Btu)

C = pollutant concentration (lbs SO₂/dscf)

F_d = dry basis F factor, which is the ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted

^jNew source performance standards (40 CFR 60.40 and 60.40a) supersede less stringent State emission limits when applicable to a new combustion source.

Connecticut, New Hampshire, Vermont, New Jersey, New York, Delaware, Maryland, Pennsylvania, Florida, Georgia, Kentucky, Illinois, Michigan, Minnesota, Ohio, Wisconsin, Oklahoma, Texas, Iowa, Colorado, Montana, Utah, Wyoming, Arizona, California, Nevada, Idaho, and Oregon. Other States do not differentiate between fuel types. Finally, most States have the same emission limits for new and existing sources. In seven States, however, the emission limit for new sources is lower than for existing sources. These States include New York, Georgia, Colorado, New Hampshire, Kentucky, Illinois, and Arizona.

Figures 2-1 and 2-2 are histograms describing the numbers of States requiring specific levels of SO_2 control. Figure 2-1 presents the limits that would apply to a boiler burning 250 MM Btu/hr of residual oil. Such a boiler burning oil with 3 percent sulfur would, for example, emit about 3.2 lbs SO_2 /MM Btu and would meet the applicable emission limit in only 8 States.

Figure 2-2 presents the limits that would apply to a boiler burning 250 MM Btu/hr of coal. Since half of the States (25) have limits of less than 3 lbs SO_2 /MM Btu, an average sulfur content of less than about 2 percent would be required to meet the emission limit.

2.3 SO_2 EMISSIONS AND CONTROLS

Approximate ranges of controlled and uncontrolled SO_2 emissions are presented in Table 2-4 for hypothetical coal-fired and oil-fired combustion sources. This table shows that bituminous coal with 3.0 percent average sulfur and a heating value of 11,500 Btu/hr would emit about 5 lbs SO_2 /MM Btu and could meet (on a monthly or annual average) the SO_2 emission limit in about 5 States. This same coal could be physically cleaned to reduce the emission rate (lbs SO_2 /MM Btu) 20 to 50 percent. On a long-term basis, it could then meet the standards of up to 21 States. Various flue gas desulfurization (FGD) systems could be used to reduce SO_2 emissions 90 percent and allow that facility to meet the regulations of most States.

With respect to oil-fired combustion sources, about 2.1 lb SO_2 /MM Btu would be emitted if No. 6 fuel oil at 3.0 percent sulfur were used. Such a source would meet the applicable emission limits in about half of the

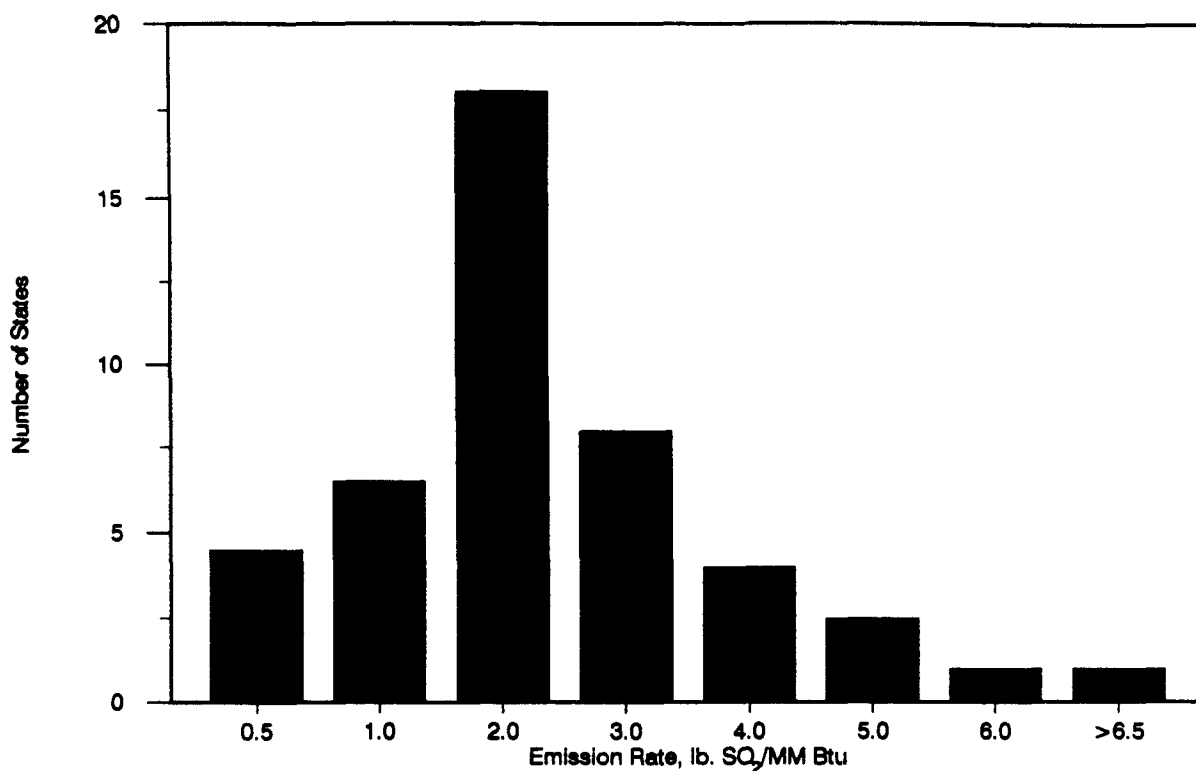


Figure 2-1. Maximum Allowable SO_2 Emission Rate for an Existing 250 MM Btu/hr Residual Oil Fired Boiler

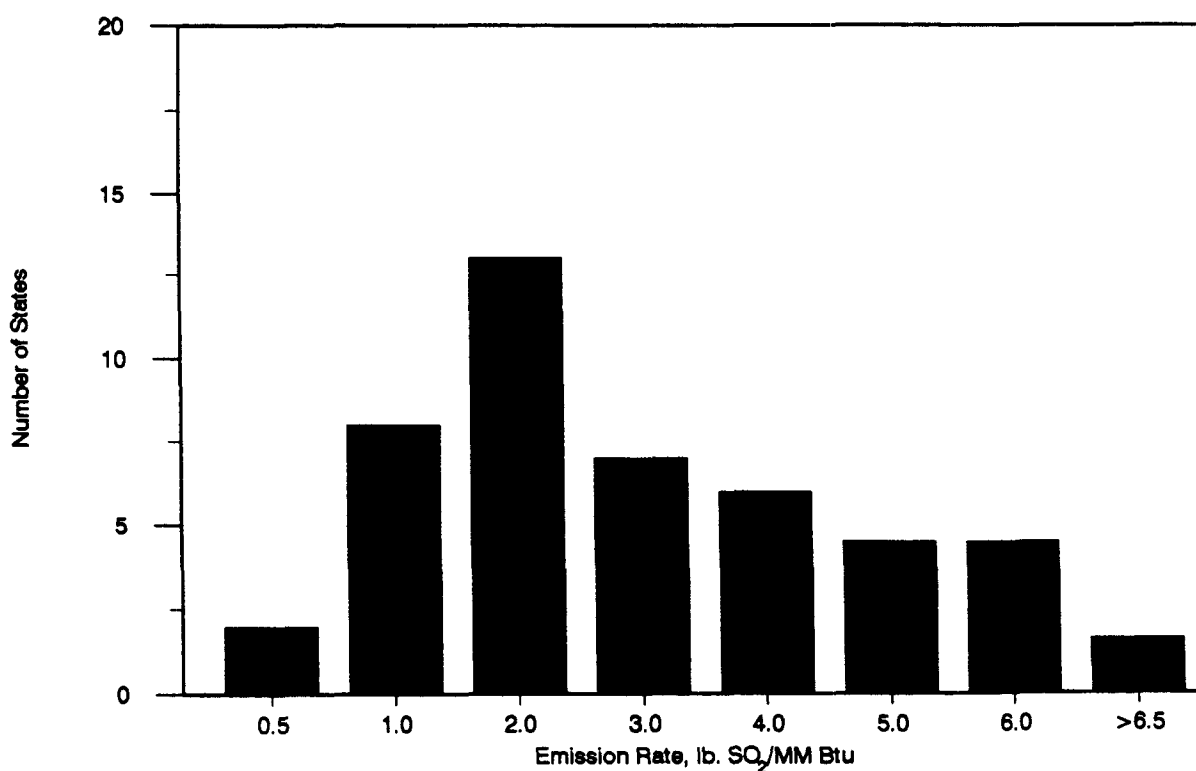


Figure 2-2. Maximum Allowable SO_2 Emission Rate for an Existing 250 MM Btu/hr Coal Fired Boiler

TABLE 2-4. SUMMARY OF SO₂ EMISSION RATES FOR HYPOTHETICAL
COAL-FIRED AND OIL-FIRED COMBUSTION SOURCES

SO ₂ control	Emission Rate (lb SO ₂ /MM Btu)		Control Efficiency (%)	
	Coal-fired unit ^a	Oil-fired unit ^b	Coal-fired unit	Oil-fired unit
None (uncontrolled)	5.0	2.1	N/A ^c	N/A ^c
Physical coal cleaning	2.5 - 4.0	N/A ^c	20 - 50	20 - 50
Limestone FGD	0.25 - 0.75	0.11 - 0.32	85 - 95	85 - 95
Dual alkali FGD	0.25 - 1.5	0.21	90 - 95	90
Dry scrubbing FGD (spray drying)	0.5 - 1.5	0.21 - 0.63	70 - 90	70 - 90

^aEstimates assume bituminous coal at 11,500 Btu/lb and 3.0% S.

^bEstimates assume No. 6 fuel oil at 19,000 Btu/lb and 2.0% S.

^cN/A = not applicable.

States. Application of various FGD systems could reduce SO₂ emissions so that compliance could be achieved in most States. Alternatively, oil cleaning can reduce the sulfur content to 0.5 percent, which would meet the regulations of most States.

3. REGULATION OF SULFUR DIOXIDE EMISSIONS FROM FUEL COMBUSTION

The Clean Air Act Amendments of 1970 (CAA) required each State to prepare a plan indicating how the NAAQS for particulates, sulfur dioxide, nitrogen oxides, ozone, and carbon monoxide would be attained and/or maintained. States adopted regulations limiting sulfur dioxide emissions from fuel combustion in response to this requirement. These sulfur dioxide regulations limited the percent sulfur (by weight) in fuels burned, pounds sulfur or sulfur dioxide emitted per million Btu of heat input to the furnace, and the parts per million (ppm) concentration of sulfur dioxide in the flue gas.

Individual State implementation plans have been revised several times since 1970. In some cases, these revisions have resulted in regulations becoming more site-specific to address localized areas or sources where SO₂ emissions were contributing to nonattainment. A number of States lowered SO₂ emission limits to ensure attainment and/or maintenance of the NAAQS. In some cases, the SO₂ emission did not change, but States added continuous monitoring and amended averaging times to ensure continuous compliance with all the SO₂ NAAQS (particularly the short-term SO₂ NAAQS).

The CAA also required EPA to develop standards of performance for new stationary sources. In response to this requirement, EPA has adopted regulations under Section 111 of the CAA for the following combustion sources of SO₂ emissions: (1) fossil fuel steam generators constructed after August 17, 1971 (40 CFR Subpart D); (2) electric utility steam generating units constructed after September 18, 1978 (40 CFR Subpart Da); (3) industrial boilers (40 CFR Subpart Db); and stationary gas turbines (40 CFR Subpart GG).

3.1 POTENTIAL SO₂ EMISSIONS FROM FUEL COMBUSTION

Sulfur dioxide emissions from combustion of fuels are proportional to the amount of sulfur in the fuel. In the case of fuel oil, it is assumed that all the sulfur in the oil is oxidized during the combustion process and

emitted as sulfur dioxide. Estimates of SO₂ emission rates from fuel oil combustion can generally be made using the following equations.

$$\text{Residual oil} - \text{lbs SO}_2/\text{MM Btu} = 1.05 \times \% \text{ S in fuel}$$

$$\text{Distillate oil} - \text{lbs SO}_2/\text{MM Btu} = 1.0 \times \% \text{ S in fuel}$$

These equations are based on the general assumptions that residual oils have an approximate heating value of 150,000 Btu/gallon and distillate oils have a value of 140,000 Btu/gallon.¹ Thus, combustion of a 2.3 percent sulfur residual oil would have a resultant emission rate of approximately 2.4 lbs SO₂/MM Btu of heat input.

For the combustion of coal, about 5 percent of the coal's sulfur remains in the bottom ash and thus 95 percent is emitted as sulfur dioxide.¹ To estimate the emission rate in lb SO₂/MM Btu, one only needs to know the percent sulfur and the heating value in Btu/lb. The following procedure can then be used for estimation:

$$\text{lbs SO}_2/\text{MM Btu} = \text{CF} \times \% \text{ S in coal}$$

where CF is,

<u>Btu/lb</u>	<u>CF</u>
10,000	1.9
10,500	1.81
11,000	1.73
11,500	1.65
12,000	1.58
12,500	1.52

Thus, a coal of 3 percent sulfur content and a heating value of 11,500 Btu/lb would have an approximate SO₂ emission rate of 5 lbs/MM Btu.

The normal range of SO₂ emissions (lb SO₂/MM Btu) is presented in Table 3-1. The range of emission rates was maximized by assuming the lowest sulfur fuel had the highest heating value and the highest sulfur fuel had the lowest heating value. There is, however, no direct correlation of sulfur content and heating value in nature.

TABLE 3-1. RANGE OF SULFUR CONTENTS, HEATING VALUES AND POTENTIAL
SULFUR DIOXIDE EMISSION RATES FOR TYPICAL FUELS

Fuel	% Sulfur (by weight)	Heating value (Btu/lb as burned)	SO ₂ emissions lb/MM Btu
Pipeline natural gas	Negligible	-	-
Wood - typical	0.02	4,560	0.1
Bark - typical	0.02	4,370	0.1
Distillate oil ²			
#1	0.01 - 0.5	19,670 - 19,860	0.01 - 0.5
#2	0.05 - 1.0	19,170 - 19,750	0.05 - 1.0
#4	0.2 - 2.0	18,280 - 19,400	0.2 - 2
Residual oil ²			
#5	0.5 - 3.0	18,100 - 19,020	0.5 - 3
#6	0.7 - 3.5	17,410 - 18,990	0.7 - 4
Anthracite coal ²	0.6 - 0.8	11,925 - 12,925	0.9 - 1
Bituminous coal ²	0.7 - 6.1	9,700 - 14,715	0.9 - 12
Subbituminous coal ²	0.3 - 0.6	8,320 - 11,340	0.5 - 1
Lignite coal ²	0.4 - 0.9	6,500 - 9,700	0.8 - 3

It can be seen that a low sulfur (.01 percent) distillate oil could yield as little of 0.01 lb SO₂/MM Btu of fuel burned while a high sulfur (6.1 percent) bituminous coal could yield as much as 12 lb SO₂/MM Btu. Wood and bark have very low sulfur contents, as well as low heating values; therefore, SO₂ emission fall in the same range as those from #1 or #2 fuel oil.

3.2 DISCUSSION OF SO₂ EMISSION REGULATIONS

3.2.1 State SO₂ Regulations

Several approaches to regulating SO₂ emissions from fuel combustion have been adopted by States in order to attain and maintain the NAAQS. The regulations applicable in each State are delineated in Chapter 5 along with notes on procedures such as test methods, averaging time, monitoring and reporting requirements used to determine compliance.

A review of Chapter 5 indicates that State SO₂ emission regulations generally limit the amount of SO₂ which can be emitted per million Btu heat input to the furnace (lb SO₂/MM Btu) or the sulfur content of the fuels which can be burned. The following paragraphs give examples of parameters in different States that affect the stringency of emission limits applicable to an individual source.

The New York State SIP, for example, contains very detailed limits on fuel sulfur content. To determine the limit applicable to a particular source, it is necessary to first know its location (county or municipality). The total heat (Btu/hr) actually being burned in all furnaces at the facility is the next important factor. A facility with 10 MM Btu/hr or less is not regulated. In some areas of the State different limits apply to facilities with total heat input greater than 250 MM Btu/hr. Limits are different for existing sources (constructed before March 15, 1973) and new sources (constructed after March 15, 1973), and for oil and solid fuel. Compliance with the sulfur-in-fuel limits is determined by stack testing (EPA Method 6) and fuel analysis to determine sulfur and ash content, heating value and specific gravity (oil). The gross heat content and ash content of the fuel burned on a weekly basis must be monitored for all

facilities with a total heat input greater than 250 MM Btu/hr. Continuous monitoring of stack SO₂ emissions is required of new facilities with heat input greater than 250 MM Btu/hr.

Pennsylvania regulations limit sulfur-in-fuel and SO₂ emission rate (lb/MM Btu) depending on the location, the design fuel burning capacity of each furnace and the type of fuel burned. An equation dictates the emission limit for furnaces with heat input capacity greater than or equal to 50 MM Btu/hr, but less than 2,000 MM Btu/hr and located in the Allegheny County, Beaver Valley, Monongahela Valley air basin. The allowable SO₂ emission rate for furnaces burning solid fossil fuels varies with averaging time. For example, the measured emission rate must always fall below 4.8 lb SO₂/MM Btu in areas I and II. Also, the average of all readings for one day (24-hour period) must fall below 4.0 lb/MM Btu (except for two days per month) and the emission average over 30 days must fall below 3.7 lb/MM Btu.

In Virginia and Nevada the emission limits (lbs SO₂/hr) are based on equations which are functions of the actual heat input to a single furnace. Compliance is determined in Virginia by stack testing using EPA Method 6 or other State-approved procedures (3 runs) and in Nevada by stack testing using a method specified by the State in the operating permit (2 runs).

Georgia limits the sulfur content of the fuel burned or <2.5 percent for furnaces actually burning less than 100 MM Btu/hr and to ≤3.0 percent for furnaces burning 100 MM Btu/hr or greater of fuel. It also limits the SO₂ emission rate (lb SO₂/MM Btu) based on equations which are functions of the furnace exhaust stack height. The limits based on stack height are not part of the Georgia SIP, however.

Allowable emission rates (lb SO₂/MM Btu) in Kentucky vary with the location (county), facility size (total plant heat input), and type fuel (solid or liquid). The emission rates are determined by equations for facilities larger than 10 MM Btu/hr and smaller than 250 MM Btu/hr. Compliance is determined by stack testing using EPA Method 6.

SO₂ emission concentrations in Louisiana, the State of Washington, and Alaska are limited to ≤2,000 ppm, ≤1,000 ppm, and ≤500 ppm, respectively. These limits apply in all locations, to all size furnaces and all fuels in each case.

3.2.2 Federal SO₂ Regulations

EPA has promulgated standards of performance for the following classes of fuel combustion units: (1) Fossil-Fuel Steam Generating Units >250 MM Btu/hr (which commenced construction after August 17, 1971); (2) Electric Utility Steam Generating Units Capable of Combusting >250 MM Btu/hr (which commenced construction after September 18, 1978); (3) Industrial- Commercial-Institutional Steam Generating Units; and (4) Stationary Gas Turbines. A summary of the provisions of these NSPS is contained in Appendix A.

Subpart D is applicable to all fossil-fuel fired steam generating units and all fossil-fuel and wood residue fired steam generating units capable of burning more than 250 MM Btu/hr of fuel, irrespective of the use of the steam produced. Compliance with the emission limit is determined by continuously monitoring the flue gas and calculating an arithmetic average of the SO₂ emission rate (lb SO₂/MM Btu) for three contiguous one-hour periods.

Subpart Da was designed to update (and supersede) Subpart D for electric utility boilers (with design heat input capacity greater than 250 MM Btu/hr) in accordance with the 1977 Amendments to the CAA. Compliance with this regulation is generally determined by continuously monitoring SO₂ concentrations in the flue gas before and after a flue gas desulfurization system (FGD) and calculating the arithmetic average of all hourly emission rates (lb SO₂/MM Btu) for 30 successive days of normal operation.

Subpart Db is applicable to steam generating units with a heat input capacity greater than 100 MM Btu/hr. Compliance with the emission limit and percent reduction requirement of the standard is determined by continuously monitoring the flue gas and calculating the arithmetic average of all hourly emission rates (lb SO₂/MM Btu) for 30 successive days of normal operation.

Subpart GG is applicable to stationary gas turbines with a heat input greater than 100 MM Btu/hr. The emission limits include a restriction on the sulfur dioxide concentration in the exhaust gas, as well as a limit on

the fuel sulfur content. Compliance is determined by daily monitoring of the fuel sulfur content after an initial performance test shows compliance with the outlet concentration limit.

3.3 REFERENCES

1. U.S. Environmental Protection Agency. Compilation of Air Pollution Emission Factors. AP-42. Office of Air Quality Planning and Standards. Supplement No. 6. April 1976. p. 1.1-1.3.
2. "Steam: It's Generation and Use." Babcock and Wilcox, New York, New York, 1975. p. 5-11 and 5-19.

4. CONTROL OF SO₂ EMISSIONS

There are three basic types of control technologies for reducing SO₂ emissions from combustion sources. These technologies include flue gas desulfurization (FGD), fluidized bed combustion (FBC), and fuel cleaning. Flue gas desulfurization technologies can be classified as either wet or dry, according to the final form of the SO₂-waste generated.

4.1 FLUE GAS DESULFURIZATION (FGD)

4.1.1 Wet FGD Processes

Wet FGD processes use an alkaline solution or slurry to adsorb SO₂ from the combustion unit flue gas. Typically, chemical solutions such as sodium, dual alkali, limestone, or lime are used. In the wet process, the adsorbed SO₂ exits the system either as a liquid waste stream or as a semi-solid waste sludge.

Sodium. Sodium scrubbers represent the most common type of wet FGD process, particularly for industrial boilers. These scrubbers use an aqueous solution of sodium hydroxide (NaOH), sodium carbonate (Na₂CO₃), sodium bicarbonate (NaHCO₃), or a mixture of these to adsorb SO₂. The effectiveness of sodium scrubbers at reducing SO₂ emissions is high. With coal, SO₂ reductions of about 95 to 98 percent can be expected. With oil, SO₂ reductions of about 90 to 95 percent can be expected.¹

Dual alkali. Dual alkali systems use a clear sodium alkali solution to absorb SO₂, followed by a step involving lime or limestone to regenerate the active alkali for SO₂. These systems can achieve SO₂ emission reductions of about 90 to 95 percent for coal-fired systems and about 90 percent for oil-fired systems.¹

Lime/Limestone. These processes employ wet scrubbers using a slurry of slaked lime (Ca(OH)₂) or limestone (CaCO₃) to absorb SO₂ from the flue gas. Typical SO₂ reduction efficiencies for lime/limestone systems range from about 85 to 95 percent.¹

4.1.2 Dry FGD Processes

Dry FGD processes use an alkaline solution or slurry to neutralize SO_2 from the flue gas, whereby the waste product is a dry solid. The most common dry FGD processes are spray drying and dry injection.

Spray drying. This FGD process involves contacting the flue gas with an atomized lime slurry or a solution of sodium carbonate. Generally, spray dryers can achieve SO_2 emission reductions of at least 70 percent and in some cases above 90 percent.¹

Dry injection. This FGD process involves injecting a dry alkaline agent into the flue gas just prior to the particulate control device. The alkaline agent reacts with the SO_2 , forming a solid, which is removed by the particulate matter control device. Dry injection systems have only been implemented in pilot-scale applications for fossil-fuel combustion sources.

4.2 FLUIDIZED BED COMBUSTION (FBC)

Fluidized bed combustion (FBC) is an alternative combustion technique for coal-fired boiler applications. A fluidized bed can increase heat transfer rates, thereby lowering heat transfer surface requirements. Furthermore, limestone added to the combustion bed enables SO_2 to be adsorbed immediately after combustion. Generally, FBC systems can achieve from 55 to over 90 percent SO_2 emission reductions.¹

4.3 FUEL CLEANING

Precombustion control of SO_2 can be accomplished by either physically or chemically treating the fuel to remove sulfur.

4.3.1 Physical Coal Cleaning

Physical coal cleaning involves subjecting the coal to size reduction and screening, separation of coal-rich and impurity-rich fractions, dewatering, and drying. Separation of coal from its impurities is accomplished by gravity separation or froth flotation.

Physical coal cleaning can typically remove above 50 percent of the nonorganic (pyritic) sulfur present in coal. For high sulfur bituminous coal (Midwest, northern Appalachia) about 70 percent of the sulfur can be removed. For low sulfur coal (West, southern Appalachia), about 20 to 30 percent of the sulfur can be removed.¹

4.3.2 Oil Cleaning

The sulfur content of fuel oil can be reduced by hydrodesulfurization or hydrotreating. These processes convert sulfur to gaseous hydrogen sulfide by contacting the oil with hydrogen and a catalyst (usually a composite made up of cobalt oxide, molybdenum oxide, and alumina). These gases are separated from the fuel and then collected. Current techniques can reduce the sulfur content to less than 0.5 percent.²

4.4 REFERENCES

1. U.S. Environmental Protection Agency. SO₂ Technology Update Report. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-450/3-85-009. July 1984.
2. U.S. Environmental Protection Agency. Nonfossil Fuel Fired Industrial Boilers - Background Information. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-450/3-82-007. March 1982.

5. INDIVIDUAL SIP REGULATIONS

The SO₂ emission regulations applicable in each State are delineated in the following pages. The States are presented by EPA Region and then alphabetically by state within each region.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Single fossil fuel or mixture of fuels

Emissions Limits:
(% S) : Less than or equal to 1, by weight (2)

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous S02 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

- (1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) A variance may be allowed during a fuel shortage emergency provided that the emissions do not exceed 1.1 lbs S02/MMBtu heat input.

SO2 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide; air pollution control/energy trade programs and periods of low sulfur fuel shortage
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Single fossil fuel or mixture of fuels

Emissions Limits:

(% S) : Greater than 1.0, by weight, or
(lb SO2/MMBtu) : Less than or equal to 0.55

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b

- 1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

(1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : Greater than or equal to 0.25
Fuel Type : Fuel containing solid fuel

Emissions Limits:
(% S) : Less than or equal to 1, by weight (2)
(lb SO₂/MMBtu) : Less than or equal to 1.1

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous SO₂ monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

- (1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) A variance may be allowed during a fuel shortage emergency provided that the emissions do not exceed 1.1 lbs SO₂/MMBtu heat input.

S02 Regulation Report

State : CONNECTICUT
Region : 1
State Regulation Citation : Title 22a, Chapter 174, sections 4, 5, and 19 (1)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment used primarily for educational or historical demonstrations
Facility Size (MMBtu/hr) : All
Fuel Type : Coal

Emissions Limits:
(% S) : Less than 1.5, by weight, or (2)
(lb SO₂/MMBtu) : Less than or equal to 1.1

Compliance Procedures :: 1e, 2a, 2b1, 2c, 3a, 3e, 4g, 5b
1e. Heat Input Determination => other [The actual firing rate of the fuel burning equipment.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2234 for sampling, D-2013 for sample preparation, D-3176 or D-3180 for the analysis of liquids, and D-129 or D-1552 for the analysis of solids.]
2c. Test Methods => other testing [Fuel analysis or stack sampling, or both, may be required.]
3a. Monitoring Requirements => continuous SO₂ monitoring [When it is determined to be technically feasible by the Commissioner.]
3e. Monitoring Requirements => other [Fuel analysis or stack sampling, or both, may be required.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [22a-174-4(c); Records and reports may be required by the Commissioner concerning air pollutants, fuels, and operational information, and shall be recorded, compiled, and submitted on forms furnished or prescribed by the Commissioner.]

Footnotes:

(1) The "Code of Federal Regulations" refers to Regulation 19-508-19, Control of Sulfur Compound Emissions.
(2) Requires Commissioner approval if the sulfur content is greater than 1%, by weight.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning sources with flue gas desulfurization or other sulfur removal processes.
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 1.0, by weight, or
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4d or 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-129, or D-1552, or equivalent procedures approved by the Commissioner.]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4d. Averaging Time => 24 hours
4g. Averaging Time => other [Calendar quarter.] (1)
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

(1) The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Metropolitan Portland outside of the Portland Peninsula, Central Maine, Downeast,
Aroostook county, and Northwest Maine
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.5, by weight

Compliance Procedures :: 1a, 2b1, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-129, or D-1552, or equivalent procedures approved by
the Commissioner.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity,
sulfur, ash, and heat content for each fuel shipment.]

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Portland Peninsula
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 1.0, by weight.

Compliance Procedures :: 1a, 2b1, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-129, or D-1552, or equivalent procedures approved by the Commissioner.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

S02 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning sources with flue gas desulfurization or other sulfur removal processes
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:

(lb S/MMBtu) : Less than or equal to 0.48, calendar quarter average, or
(lb SO₂/MMBtu) : Less than or equal to 2.4, total in 24 hour period

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4d or 4g, 5b

1a. Heat Input Determination => unit design rated (MMBtu/hr)

2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176.]

2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]

3a. Monitoring Requirements => continuous SO₂ monitoring [Required for blended fuel use.]

3c. Monitoring Requirements => sulfur content of fuel

3d. Monitoring Requirements => quantity of fuel

4d. Averaging Time => 24 hours

4g. Averaging Time => other [Calendar quarter] {1}

5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

(1) The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Central Maine, Downeast, Aroostook county, Northwest Maine, and Metropolitan
Portland outside the Portland Peninsula region.
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation,
percent sulfur and moisture analysis, and gross calorific value
determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Calendar quarter] (1)
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity,
sulfur, ash, and heat content for each fuel shipment.]

Footnotes:
(1) The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May,
June; (3) July, August, September; (4) October, November, December.

SO2 Regulation Report

State : MAINE
Region : 1
State Regulation Citation : Chapter 106

Applicable Area : Portland Peninsula
Applicable Time Frame : Global
Facility Type : Fuel burning sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.48

Compliance Procedures :: 1a, 2b1, 2b4, 3a, 3c, 3d, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b1. Test Methods => fuel testing: ASTM [D-2234, D-2013, D-3177, D-3173, D-3176]
2b4. Test Methods => fuel testing: other [EPA Method 19; sample collection and preparation, percent sulfur and moisture analysis, and gross calorific value determination.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for blended fuel use.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Calendar quarter.] {1}
5b. Reporting => state regulation [106.3A; A quarterly report itemizing the quantity, sulfur, ash, and heat content for each fuel shipment.]

Footnotes:

{1} The calendar quarters are composed by months as follows: (1) January, February, March; (2) April, May, June; (3) July, August, September; (4) October, November, December.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310 CMR, 7.05 and 7.12

Applicable Area : Metropolitan Boston APCD: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities excluding electric generating facilities greater than or equal to 2.5 billion Btu/hr
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.28 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel limitation of 0.55 lb S/MMBtu heat release potential shall be allowed for fossil fuel utilization facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conversion measures.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Berkshire Air Pollution Control District
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels excluding distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD excluding Worcester; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.

Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than 100
Fuel Type : All fossil fuel excluding distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel limit of 1.21 lbs S/MMBtu heat release potential shall be allowed for fossil fuel utilization facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conservation measures.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD excluding Worcester; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.

Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Greater than or equal to 100
Fuel Type : All fossil fuel excluding distillate fuel oil.

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous S02 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Merrimack Valley APCD excluding Lawrence, Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels excluding distillate fuel oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21

Compliance Procedures :: 1e, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Berkshire APCD; Central Massachusetts APCD; Merrimack Valley APCD; Metropolitan Boston APCD excluding Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown; Pioneer Valley APCD; Southeastern Massachusetts APCD.
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : Distillate fuel oil (No. 2)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.17 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous S02 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Central Massachusetts APCD: Worcester, Lawrence; Merrimack Valley APCD: Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Greater than 300
Fuel Type : Residual fuel oil (No. 4, 5, or 6)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Statewide excluding Franklin and Hampshire counties.
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 3.0
Fuel Type : Any residual fuel oil (No. 4, 5, or 6)

Emissions Limits:
(% S) : Not allowed
(lb S/MMBtu) : Not allowed
(ppm SO2) : Not allowed

Compliance Procedures :: 1e, 2c, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 60, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this, shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Franklin and Hampshire counties
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 100
Fuel Type : Any residual fuel oil (No. 4, 5, or 6)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21 {1}

Compliance Procedures :: 1a, 2b4, 3b, 3c, 3d, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

{1} The Department may allow fuel with a higher sulfur content to be used provided that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

SO2 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Merrimack Valley APCD: Lawrence, Andover, Methuen, and North Andover
Applicable Time Frame : Global
Facility Type : Fossil fuel utilization facilities
Facility Size (MMBtu/hr) : All
Fuel Type : Coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1a, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the emissions do not exceed the standard and that the conditions for approval have been agreed to in writing. An interim sulfur-in-fuel utilization limit of 1.21 lbs S/MMBtu heat release potential shall be allowed for facilities with an energy input capacity less than 250 MMBtu/hr pending conversion to an alternate fuel or implementation of permanent energy conservation measures.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Metropolitan Boston APCD: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Newton, Somerville, Waltham, and Watertown
Applicable Time Frame : Global
Facility Type : Electric generating facilities
Facility Size (MMBtu/hr) : Greater than or equal to 2500
Fuel Type : Any fossil fuel

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55 (1)

Compliance Procedures :: 1a, 2b4, 3a, 3b, 3c, 3d, 3e, 4g, 5b, 5c
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51, Appendix P]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]
5c. Reporting => specified in 40 CFR Part 51 [Appendix P]

Footnotes:

(1) The Department may allow fuel with a higher sulfur content to be used provided that the conditions for approval have been agreed to in writing. Application for and approval by the Department must be made, and a reserve of low sulfur fuel must be on hand.

S02 Regulation Report

State : MASSACHUSETTS
Region : 1
State Regulation Citation : Title 310, CMR 7.05 and 7.12

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Hand-fired fuel burning utilization facilities
Facility Size (MMBtu/hr) : Less than or equal to 0.15 MMBtu/hr.
Fuel Type : Solid fossil fuel

Emissions Limits:

(% S) : Not allowed
(lb S/MMBtu) : Not allowed
(ppm SO₂) : Not allowed

Compliance Procedures :: 1a, 2b4, 3b, 3c, 3d, 3e, 4g, 5b

1a. Heat Input Determination => unit design rated (MMBtu/hr)

2b4. Test Methods => fuel testing: other [All fuel analysis shall be performed and reported as approved by the Department.]

3b. Monitoring Requirements => ambient monitoring or diffusion estimate

3c. Monitoring Requirements => sulfur content of fuel

3d. Monitoring Requirements => quantity of fuel

3e. Monitoring Requirements => other [The fuel supplier must record the fuel quantity, BTU value, sulfur content, viscosity, and ash content of the fuel for each facility.]

4g. Averaging Time => other [Not specified]

5b. Reporting => state regulation [7.12; Facility registration to include the nature and amount of emissions, and all information necessary to determine this shall be submitted yearly for major facilities and every three years for non-major facilities that have a rated input capacity in excess of 3 MMBtu/hr.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 2 fuel oil

Emissions Limits:
(% S) : Less than or equal to 0.40, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 4 fuel oil

Emissions Limits:
(% S) : Less than or equal to 1.0, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide excluding Androscoggin Valley AQCR
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 5 and no. 6 fuel oil, and crude oil (distillate oil)

Emissions Limits:
(% S) : Less than or equal to 2.0, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor is required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Androscoggin Valley AQCR
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : No. 5 and no. 6 fuel oil, and crude oil (distillate oil)

Emissions Limits:
(% S) : Less than or equal to 2.2, by weight

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor is required to test viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

SO2 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Gaseous fossil fuel (natural and manufactured)

Emissions Limits:
(ppm SO2) : Less than or equal to 5 gr/100 ft3, calculated as H2S at standard conditions

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

SO2 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : Before 04/15/70
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel (coal)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 2.8, gross heat content, and less than or equal to 2.0,
gross heat content for a trimonthly period.

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples
shall be carried out in accordance with the most recent ASTM methods, or
equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required
from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur
content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a
report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : NEW HAMPSHIRE
Region : 1
State Regulation Citation : Chapter 400

Applicable Area : Statewide
Applicable Time Frame : After 04/15/70
Facility Type : Combustion sources
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel (coal)

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.5, gross heat content.

Compliance Procedures :: 1e, 2b4, 2b5, 3e, 4g, 5e
1e. Heat Input Determination => other [Not applicable.]
2b4. Test Methods => fuel testing: other [Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods, or equivalent methods acceptable to the agency.]
2b5. Test Methods => fuel testing: other [Viscosity, sulfur content, and Btu content is required from the fuel vendor.]
3e. Monitoring Requirements => other [The fuel vendor required to test the viscosity, Btu, and sulfur content of the fuel.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Not specified for the facility. The fuel vendor shall provide a report of the laboratory analysis for each fuel consignment.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with stack cleaning devices
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel except fuel oil

Emissions Limits:
(lb S/MMBtu) : Greater than 0.55, heat release potential {1}
(lb SO2/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 3c, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance.]

Footnotes:
{1} Requires Director approval.

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with stack cleaning devices
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(% S) : Greater than 1.0 (1)
(lb SO2/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 3c, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55, heat release potential

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuels must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3e. Monitoring Requirements => other [Requirements specified in the "Rhode Island Guideline for Air Quality Monitoring"]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance.]

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Coal

Emissions Limits:
(% S) : Greater than or equal to 1.0, by weight.
(lb S/MMBtu) : Less than or equal to 1.21, heat release potential, (thirty day period), or Less than or equal to 2.31, heat release potential, (twenty-four hour period).

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuels must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3e. Monitoring Requirements => other [Requirements specified in the "Rhode Island Guideline for Air Quality Monitoring".]
4g. Averaging Time => other [Thirty day or twenty four hour period.]
5b. Reporting => state regulation [No. 14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. Quarterly reports stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation for each unit.]

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 14 and 20

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : Greater than 1.0
Fuel Type : Alternate fuel

Emissions Limits:
(% S) : Less than 1.0, by weight.

Compliance Procedures :: 1e, 2b1, 2b4, 2c, 3c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2b1. Test Methods => fuel testing: ASTM [D-1552]
2b4. Test Methods => fuel testing: other [Heavy metals, flash point, viscosity, percent solids, H2O, and ash, and any hazardous components suspected of being present in the material.]
2c. Test Methods => other testing [Sampling and analysis procedures according to Title 23, Chapter 20, Appendix B, of the state regulations.]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [Compliance with all applicable rules and regulations of the Division of Air and Hazardous Materials.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.20.9; Records maintained for three years to include the feed rates of fuel, fuel vendor and sampling data, and fuel delivery information.]

SO2 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulation 8

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices without stack cleaning devices or emission bubbles.
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels except fuel oil and coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.55, heat release potential

Compliance Procedures :: 1e, 2a, 2b4, 3c, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants, and other data that may be necessary to determine if the source is in compliance.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulation 8

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices without stack cleaning devices or emission bubbles.
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(% S) : Less than or equal to 1.0

Compliance Procedures :: 1e, 2a, 2b4, 3c, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units, and Method 20 for stationary gas turbines]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance.]

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with emission bubbles
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel excluding fuel oil

Emissions Limits:

(lb S/MMBtu) : Less than or equal to 1.21, heat release potential, and (1)
(lb SO₂/MMBtu) : Less than or equal to 1.1, actual heat input

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3b, 3c, 3d, 3e, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines.]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed by ASTM methods which have prior approval, or are required by the Director.]
2c. Test Methods => other testing [Type of fuel, sulfur content, maximum rated gross heat input for each unit, stack height, stack exit velocity and temperature, monitoring, and modeling.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Aerodynamic downwash modeling.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [Type of fuel, operating hours, stack gas exit temperature and velocity.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. A quarterly report stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation for each unit.]

Footnotes:

(1) Requires Director approval.

S02 Regulation Report

State : RHODE ISLAND
Region : 1
State Regulation Citation : Title 23, Regulations 8 and 14

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning devices with emission bubbles
Facility Size (MMBtu/hr) : All
Fuel Type : Fuel oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.21, heat release potential. {1}

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3c, 3d, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 for steam generating units and Method 20 for stationary gas turbines]
2b4. Test Methods => fuel testing: other [Fossil fuel must be sampled and analyzed according to ASTM methods which have prior approval or are required by the Director.]
2c. Test Methods => other testing [Stack testing, or with the approval of the Director, fuel testing. Modeling requirements as specified in the "Rhode Island Guideline for Air Quality Modeling".]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
4g. Averaging Time => other [Thirty month limit.]
5b. Reporting => state regulation [No.14; A yearly report of data on operational processes, fuel usage, source emissions, generator capacities, types of equipment producing air contaminants and other data that may be necessary to determine if the source is in compliance. A quarterly report stating the quantity of high sulfur fuel used, fuel cost, cost of equivalent quantity of low sulfur fuel, and the hours of operation of each unit.]

Footnotes:
{1} Requires Director approval.

S02 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter 11, sections 221, 252, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning installations excluding gas turbine generators
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.0 {1}
(lb SO₂/MMBtu) : Less than or equal to 0.8

Compliance Procedures :: 1a, 2a, 3b, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Emissions testing is required to demonstrate the reduction of sulfur levels to be no greater than emissions from burning two percent sulfur fuel.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [Monitoring may be required. APCO may require stack tests as specified in 40 CFR part 60.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:
{1} When low sulfur fuel is not available, the Secretary may permit the use of fuel containing up to 2.2% sulfur.

S02 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter II, sections 221, 252, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning installations excluding gas turbine generators
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Solid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 2.0 (1)
(lb SO2/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1a, 2a or 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Emissions testing is required to demonstrate reduction of sulfur levels to be no greater than emissions from burning two percent sulfur fuel.]
2b4. Test Methods => fuel testing: other [May be required.]
3e. Monitoring Requirements => other [Monitoring may be required. APCO may require stack tests as specified in 40 CFR part 60.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions, and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:
{1} When low sulfur fuel is not available, the Secretary may permit the use of fuel containing up to 2.2% sulfur.

SO2 Regulation Report

State : VERMONT
Region : 1
State Regulation Citation : Chapter 5, subchapter II, sections 221, 261, 404, and 405

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Electrical power generation facilities and fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Waste oil

Emissions Limits:
(% S) : Less than or equal to 2.0 (1)

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3d, 3e, 4g, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required. Other source testing may be required in accordance with methods acceptable to the APCO.]
2b4. Test Methods => fuel testing: other [PCB's, total organic halogens, total inorganic chloride, lead, heat of combustion, and flash point.]
2c. Test Methods => other testing [Combustion efficiency of equipment.]
3d. Monitoring Requirements => quantity of fuel [May be required.]
3e. Monitoring Requirements => other [Compliance testing according to section 5-261 (Control of Hazardous Air Contaminates). A permit to burn is required for sources greater than 1,000,000 MMBtu/hr. For sources greater than 10,000,000 MMBtu/hr written notice must be made to the APCO prior to the date of the initial burn.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [5-402; Reports shall contain information concerning fuels used, nature, amount, and time periods or durations of emissions and other information relevant to the air pollution potential of the source. These reports shall also include the results of source tests that may be required.]

Footnotes:

(1) When low sulfur fuel is not available the Secretary may permit the use of fuel containing 2.2% sulfur.

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zone 1 {1}
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (<= No. 2 grade)

Emissions Limits:
(% S) : 0.3
(lb SO2/MMBtu) : 0.32

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Atlantic, Cape May, Cumberland, and Ocean Counties

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zone 1 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (>= No. 4, No. 5, No. 6 grade)

Emissions Limits:
(% S) : 2.0
(lb SO2/MMBtu) : 2.10

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Atlantic, Cape May, Cumberland, and Ocean Counties

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zones 2 & 5 {1}
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (<= No. 2 grade)

Emissions Limits:
(% S) : 0.3
(lb SO2/MMBtu) : 0.32

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
{1} Hunterdon, Sussex, Warren, and Salem Counties

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zones 2 & 5 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (No. 4 grade)

Emissions Limits:
(% S) : 0.7
(lb SO2/MMBtu) : 0.74

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Hunterdon, Sussex, Warren, and Salem Counties

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zones 2 & 5 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (>= No. 5, No. 6 grade)

Emissions Limits:
(% S) : 1.0
(lb SO2/MMBtu) : 1.05

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Hunterdon, Sussex, Warren, and Salem Counties

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zone 3 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (<= No. 2 grade)

Emissions Limits:
(% S) : 0.2
(lb SO2/MMBtu) : 0.21

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Burlington, Camden, Gloucester, and Mercer Counties (except those municipalities included in Zone 6).

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zone 3 {1}
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (No. 4 grade)

Emissions Limits:
(% S) : 0.3
(lb SO2/MMBtu) : 0.32

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:

{1} Burlington, Camden, Gloucester, and Mercer Counties (except those municipalities included in Zone 6).

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zone 3 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (>= No. 5, No. 6 grade)

Emissions Limits:
(% S) : 0.5
(lb SO2/MMBtu) : 0.53

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Burlington, Camden, Gloucester, and Mercer Counties (except those municipalities included in Zone 6).

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zones 4 & 6 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (<= No. 2 grade)

Emissions Limits:
(% S) : 0.2
(lb SO2/MMBtu) : 0.21

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:

(1) Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties; and in Burlington County, the municipalities of Bass River, Shamong, Southampton, Tabernacle, Washington, Woodland; and in Camden County, Waterford Township.

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 9.2

Applicable Area : Zones 4 & 6 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : fuel oil (>= No. 4, No. 5, No. 6 grade)

Emissions Limits:
(% S) : 0.3
(lb SO2/MMBtu) : 0.32

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:

(1) Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties; and in Burlington County, the municipalities of Bass River, Shamong, Southampton, Tabernacle, Washington, Woodland; and in Camden County, Waterford Township.

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Zones 1 & 2 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : solid fuels, excluding anthracite coal and coke

Emissions Limits:
(% S) : 1.0
(lb SO2/MMBtu) : 1.5

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Atlantic, Cape May, Cumberland, Ocean, Hunterdon, Sussex, and Warren Counties.

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Zones 3 & 4 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : solid fuels, excluding anthracite coal and coke

Emissions Limits:
(% S) : 0.2
(lb SO2/MMBtu) : 0.3

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:

(1) Burlington, Camden, Gloucester, and Mercer Counties (except those municipalities included in Zone 6);
Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties.

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Zones 1,2,3, and 4 (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : anthracite coal and coke

Emissions Limits:
(% S) : 0.8
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:

(1) Includes all Counties except for Salem and in Burlington County, the municipalities of Bass River, Shamong, Southampton, Tabernacle, Washington, Woodland, and in Camden County, Waterford Township.

SO2 Regulation Report

State : NEW JERSEY

Region : 2

State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Statewide

Applicable Time Frame : Global

Facility Type : expanded or reconstructed resource recovery facilities

Facility Size (MMBtu/hr) : >1

Fuel Type : solid fuels

Emissions Limits:

(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1c, 2a, 3a, 4a, 5a

1c. Heat Input Determination => total plant design rated (MMBtu/hr)

2a. Test Methods => source testing (as specified in 40 CFR Part 60)

3a. Monitoring Requirements => continuous SO2 monitoring

4a. Averaging Time => specified in 40 CFR Part 60

5a. Reporting => specified in 40 CFR Part 60

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : expanded or reconstructed fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : anthracite coal, exclusively

Emissions Limits:
(lb SO2/MMBtu) : 1.20

Compliance Procedures :: 1c, 2a, 3a, 4a, 5a
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

SO2 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : expanded or reconstructed fuel burning installations
Facility Size (MMBtu/hr) : >1
Fuel Type : anthracite coal and coke

Emissions Limits:
(% S) : 0.8

Compliance Procedures :: 1c, 2a, 3a, 4a, 5a
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : expanded or reconstructed fuel burning installations
Facility Size (MMBtu/hr) : >1
Fuel Type : solid fuel, excluding coke and anthracite coal

Emissions Limits:
(% S) : 0.20
(lb SO2/MMBtu) : 0.30

Compliance Procedures :: 1c, 2a, 3a, 4a, 5a
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : expanded or reconstructed fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : solid fuel

Emissions Limits:
(% S) : 0.30
(lb SO2/MMBtu) : 0.60

Compliance Procedures :: 1c, 2a, 3a, 4a, 5a
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : NEW JERSEY
Region : 2
State Regulation Citation : Title 7, Chapter 27, Subchapter 10.2

Applicable Area : Zones 3 & 4 (1)
Applicable Time Frame : Before 05/06/68
Facility Type : expanded or reconstructed fuel burning installations
Facility Size (MMBtu/hr) : >200 or a group of facilities >450
Fuel Type : solid fuels, excluding anthracite coal and coke

Emissions Limits:
(% S) : 1.0
(lb SO2/MMBtu) : 1.5

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified by the Department]
3e. Monitoring Requirements => other [Specified by the Department]
4g. Averaging Time => other [Specified by the Department]
5e. Reporting => other [Specified by the Department]

Footnotes:
(1) Burlington, Camden, Gloucester, and Mercer Counties (except those municipalities included in Zone 6);
Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : New York City
Applicable Time Frame : Global
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >10
Fuel Type : residual oil

Emissions Limits:
(% S) : 0.30

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d, 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring [See Appendix B, "Performance Specification 2".]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and Sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by methods acceptable to
the commissioner to include ash content, specific gravity, and heating
value.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : New York City
Applicable Time Frame : Global
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >10
Fuel Type : distillate oil

Emissions Limits:
(% S) : 0.20

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d, 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring [See Appendix B, "Performance Specification 2".]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and Sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by methods acceptable to
the commissioner to include specific gravity and heating value.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : New York City
Applicable Time Frame : Global
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >10
Fuel Type : solid fossil fuel

Emissions Limits:
(% S) : 0.20

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d, 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] {1}
3a. Monitoring Requirements => continuous S02 monitoring [See Appendix B, "Performance Specification 2".]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and Sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by methods acceptable to
the commissioner to include ash content and heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

Footnotes:
{1} For electricity installations: average electrical output & hourly generation rate.

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Nassau, Rockland, & Westchester Counties
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : fuel oil (residual and distillate)

Emissions Limits:
(% S) : 0.37

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] {1}
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include specific gravity & heating value and (for
residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

{1} For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Nassau, Rockland, & Westchester Counties
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : solid fuel

Emissions Limits:
(% S) : 0.20

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:
(1) For electricity installations: average electrical output & hourly generation rate.

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Erie County, City of Lakawana, and South Buffalo
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : fuel oil, both residual and distillate

Emissions Limits:
(% S) : 1.1

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include specific gravity & heating value and (for
residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Erie County, City of Lakawana, and South Buffalo
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : solid fuel

Emissions Limits:
(% S) : 1.7 (1.4 average)

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Suffolk County, Towns of Babylon, Brookhaven, Huntington, Islip, and Smithtown
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : fuel oil, both residual and distillate

Emissions Limits:
(% S) : 1.00

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include specific gravity & heating value and (for
residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Suffolk County, Towns of Babylon, Brookhaven, Huntington, Islip, and Smithtown
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : solid fossil

Emissions Limits:
(lb SO2/MMBtu) : 0.60

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] {1}
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

{1} For electricity installations: average electrical output & hourly generation rate.

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Remainder of State
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : fuel oil

Emissions Limits:
(% S) : 1.50

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner to include specific gravity & heating value and (for residual oil) ash content]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Remainder of State
Applicable Time Frame : Before 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >10
Fuel Type : solid fuel

Emissions Limits:
(lb SO₂/MMBtu) : 2.5 (1.9 average) (1.7 annual average)

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel
burned; (weekly) gross heat content & ash content of fuel burned.] (1)
3a. Monitoring Requirements => continuous SO₂ monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to
the commissioner to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

(1) For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Erie County, City of Lakawana & South Buffalo
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : fuel oil, both residual and distillate

Emissions Limits:
(% S) : 1.1

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received or sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner, to include specific gravity & heating value and (for residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Erie & Niagara Counties, City of Lakawana & South Buffalo
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : solid fuel

Emissions Limits:
(lb SO2/MMBtu) : 1.7 (1.4 average)

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received or sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner, to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Suffolk County, Towns of Babylon, Brookhaven, Huntington, Islip, and Smithtown
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : fuel oil, both residual and distillate

Emissions Limits:
(% S) : 1.00

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner to include specific gravity & heating value and (for residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Suffolk County, Towns of Babylon, Brookhaven, Huntington, Islip, and Smithtown
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : solid fossil

Emissions Limits:
(lb SO2/MMBtu) : 0.60

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received or sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner, to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

SO2 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Remainder of State
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : fuel oil

Emissions Limits:
(% S) : 1.50

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received or sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner, to include specific gravity & heating value and (for residual oil) ash content.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225

Applicable Area : Remainder of State
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <=250 but >10
Fuel Type : solid fuel

Emissions Limits:
(lb SO2/MMBtu) : 2.5 (1.9 average) (1.7 annual average)

Compliance Procedures :: 1d, 2a, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received or sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner, to include ash content & heating value (for coal).]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the Commissioner]

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225-1.2

Applicable Area : all areas except New York City, Nassau, Rockland, or Westchester Counties
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : fuel oil

Emissions Limits:
(% S) : 0.75

Compliance Procedures :: 1d, 2a, 2c, 3a, 3c, 3d, 3e, 4a, 5b, 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [(daily) rate of fuel burned; (weekly) gross heat content & ash content of fuel burned.] {1}
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner to include specific gravity & heating value.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:

{1} For electricity installations: average electrical output & hourly generation rate.

S02 Regulation Report

State : NEW YORK
Region : 2
State Regulation Citation : Title 6, Part 225-1.2

Applicable Area : all areas except New York City, Nassau, Rockland, or Westchester Counties
Applicable Time Frame : After 03/15/73
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 0.60

Compliance Procedures :: 1d, 2a or 2c, 3a, 3c, 3d or 3e, 4a, 5b or 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [If total heat input >250 MM Btu/hr: (daily) rate of fuel burned; (weekly) gross heat content & ash content of fuel burned.] {1}
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel [Received and sold]
3e. Monitoring Requirements => other [Sampling, compositing, and analysis of fuel by method acceptable to the commissioner to include ash content & heating value for coal.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Title 6, Parts 225-1.7(d) & (e) and 225-1.8]
5e. Reporting => other [Specified by the commissioner]

Footnotes:
{1} For electricity installations: average electrical output & hourly generation rate.

SO2 Regulation Report

State : PUERTO RICO
Region : 2
State Regulation Citation : Part I, 106 and Part IV, 410

Applicable Area : All
Applicable Time Frame : Before 08/17/71
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : <8 {1}
Fuel Type : All

Emissions Limits:
(% S) : 2.5 {2}

Compliance Procedures :: 1a, 2b4, 3c, 3e, 4g, 5b, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [ASTM D-1552; ASTM D-3120; ASTM-270; APT-2546.]
3c. Monitoring Requirements => sulfur content of fuel [daily]
3e. Monitoring Requirements => other [All other information as may be required by the Board.]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [Part IV, 410 (F)]
5e. Reporting => other [Any other information as deemed necessary by the Regional
Administrator [Section 52.2725(2)].]

Footnotes:

- {1} Facilities ≥ 8 MMBtu/hr must request a sulfur % assignment from the Board.
{2} Sulfur content limits are established for every emission unit at each source. These limits can be lower, but not greater than, 2.5 percent sulfur.

SO2 Regulation Report

State : PUERTO RICO
Region : 2
State Regulation Citation : Part I, 103 & 106 and Part IV, 412

Applicable Area : All
Applicable Time Frame : Global
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(ppm SO2) : 1,000

Compliance Procedures :: 1a, 2a, 3a, 3b or 3e, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [Any monitoring requirements deemed necessary by the Board]
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : DELAWARE
Region : 3
State Regulation Citation : Delaware Code, Title 29, Chapter 80

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Distillate

Emissions Limits:
(% S) : 0.3 (1)

Compliance Procedures :: 1e, 2a or 2c, 3a or 3e, 4a or 4g, 5d
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2c. Test Methods => other testing [Residual and distillate fuels: x-ray absorption and/or the
parr oxygen bomb technique.]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [Specified by the Department.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Unless emission controls are installed or NAAQS is exceeded.

S02 Regulation Report

State : DELAWARE
Region : 3
State Regulation Citation : Delaware Code, Title 29, Chapter 80

Applicable Area : New Castle County
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(% S) : 1.0 for solid and residual fuel oils, 0.3 for distillate fuel oils. (1)

Compliance Procedures :: 1e, 2a or 2c, 3a or 3e, 4a or 4g, 5d
1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2c. Test Methods => other testing [Residual and distillate fuels: x-ray absorption and/or the
parr oxygen bomb technique.]
3a. Monitoring Requirements => continuous SO2 monitoring [For facilities >250 MMBtu/hour or with SO2
control equipment.]
3e. Monitoring Requirements => other [As approved by the Department.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As approved by Department.]
5d. Reporting => specified by the Director

Footnotes:
(1) Unless emission controls are installed.

S02 Regulation Report

State : DISTRICT OF COLUMBIA
Region : 3
State Regulation Citation : District of Columbia Municipal Regulations, Title 20

Applicable Area : DC-wide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(% S) : 1.0 (1)

Compliance Procedures :: 1a, 2b4 or 2c, 3a or 3b or 3c, 4a, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [In accordance with 40CFR, 60.45 (f)(5)]
2c. Test Methods => other testing [As specified by the Mayor]
3a. Monitoring Requirements => continuous SO2 monitoring [Sources which emit >100 tons/year]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3c. Monitoring Requirements => sulfur content of fuel
4a. Averaging Time => specified in 40 CFR Part 60
5e. Reporting => other [As specified by the Mayor]

Footnotes:

(1) Can be higher for coal if shown that sulfur oxide emissions for the combustion-gas-desulfurization system will not increase.

S02 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. (1)

Applicable Area : I, II, V, and VI
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : All
Fuel Type : Residual

Emissions Limits:
(% S) : 2 (2)

Compliance Procedures :: 1a, 2c, 3e, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical
Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties. Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
(2) Unless control equipment is installed. For Area I, if compliance will cause or exacerbate violation of NAAQS, emission standard will be 1.0% sulfur, by weight.

S02 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. (1)

Applicable Area : III and IV
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : All
Fuel Type : Residual

Emissions Limits:
(% S) : 1.0 (2)

Compliance Procedures :: 1a, 2c, 3e, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical
Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties. Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
(2) Unless control equipment is installed.

S02 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. {1}

Applicable Area : I, II, III, IV, V, and VI
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : All
Fuel Type : Distillate

Emissions Limits:
(% S) : 0.3 {2}

Compliance Procedures :: 1a, 2c, 3e, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical
Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties. Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
{2} Unless control equipment is installed

S02 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. (1)

Applicable Area : I, II, V, and VI
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : Greater than 100
Fuel Type : Solid

Emissions Limits:
(lb S02/MMBtu) : 3.5 (SOX) (2)

Compliance Procedures :: 1b, 1c, 2c, 3e, 4g, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties. Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
- (2) Unless control equipment is installed. For Area I, if compliance will cause or exacerbate violation of NAAQS, emission standard will be 1.8 lbs S02/MMBtu.
-

S02 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. (1)

Applicable Area : III and IV
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(% S) : 1.0 (2)

Compliance Procedures :: 1a, 2c, 3e, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical
Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties. Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
(2) Unless control equipment is installed. Cyclone type in excess of 1000 MMBtu/hour: emission standard for solid fuel is 3.5 lbs SO₂/MMBtu.

SO2 Regulation Report

State : MARYLAND
Region : 3
State Regulation Citation : Code of Maryland Regulations, Title 10, Subtitle 18. (1)

Applicable Area : I, II, V, and VI
Applicable Time Frame : Global
Facility Type : All fuel burning
Facility Size (MMBtu/hr) : All
Fuel Type : Process gas

Emissions Limits:
(% S) : 0.3 (2)

Compliance Procedures :: 1a, 2c, 3e, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [Specified in Air Management Administration Technical
Memorandum 83-05, "Stack Test Methods for Stationary Sources," June 1983.]
3e. Monitoring Requirements => other [Specified by the Department.]
4g. Averaging Time => other [Specified by the Department.]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: Allegany, Garrett, and Washington Counties. Area II: Frederick County. Area III: Baltimore city; Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. Area IV: Montgomery and Prince George Counties. Area V: Calvert, Charles, and St. Mary's Counties, Area VI: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties.
{2} Unless control equipment is installed

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : 1
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : No. 2 and lighter: 0.5, No. 4 and heavier: 2.8 (2)
(lb SO2/MMBtu) : All weights: less than or equal to 4 (3)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring [For all facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: All Non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
(2) May be exceeded if emission reduction equipment is in place
(3) For any 1 hour period

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : 1
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Solid

Emissions Limits:
(lb S02/MMBtu) : 4.0 (over any 1 hour period) (2)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
- (2) Any facility <250 MMBtu/hour may petition for an application to meet the requirements for >250 MMBtu/hour facilities if continuous monitoring is in place.
-

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : 1
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Solid

Emissions Limits:

(lb SO2/MMBtu) : 3.7 (thirty day running average not to be exceeded), 4.0 (daily average not to be exceeded more than 2 days in any running 30 day period), and 4.8 (daily average max. not to be exceeded at any time).

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : II
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : No. 2 and lighter: 0.3; No. 4 and heavier: 2.8 {2}
(lb SO2/MMBtu) : 4.0 for all weights {3}

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring [For all facilities >250 MMBtu/hour with
continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
{2} May be exceeded if emission control equipment is in place
{3} Over a 1 hour period

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : II
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 (over any 1 hour period) {2}

Compliance Procedures :: 1a, 2c, 3a, 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
{2} Any facility <250 MMBtu/hour may petition for an application to meet requirements for >250 MMBtu/hour facilities.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : II
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Solid

Emissions Limits:
(lb S02/MMBtu) : 3.7 (Thirty day running average not to be exceeded), 4.0 (daily average not to be exceeded more than 2 day in any 30 day running period), 4.8 (daily average max. not to be exceeded at any time).

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5b. Reporting => state regulation

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : III
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:

{% S} : No. 2 and lighter: 0.5; No. 4 and heavier: 2.8 {2}
{lb SO2/MMBtu} : 3.0 for all weights {3}

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

{1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
{2} May be exceeded if emission control equipment is in place
{3} Over a 1 hour period

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : III
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 (over any 1 hour period) {2}

Compliance Procedures :: 1a, 2c, 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
- {2} Any facility <250 MMBtu/hour may petition for an application to meet requirements for >250 MMBtu/hour facilities if continuous monitoring is in place.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : III
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 2.8 (Thirty day running average not to be exceeded), 3.0 (daily average not to be exceeded more than 2 days in any running 30 day period), 3.6 (daily average max. not to be exceeded at any time).

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : IV
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than 2.5 but less than 50
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 1.0

Compliance Procedures :: 1a, 2c, 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : IV
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than 50 but less than 2000
Fuel Type : All

Emissions Limits:
(lb S02/MMBtu) : Use equation: $A = 1.7(E^{-0.14})$; where A is the allowable emissions in lbs/MMBtu and E is the heat input to combustion unit in MMBtu's.

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

{1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : IV
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than 2000
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 0.6

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Less than 250 {2}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 0.75 (Thirty day running average not to be exceeded), 1.0 (daily average not to be exceeded more than 2 days in any running 30 day period), 1.2 (daily average max. not to be exceeded). {3}

Compliance Procedures :: 1a, 2c, 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:
{1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
{2} Any facility <250 MMBtu/hour may petition for an application to meet requirements for >250 MMBtu/hour facilities if continuous monitoring is in place.
{3} If no continuous monitoring is in place, must meet 1.0.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than or equal to 250 (2)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 0.45 (Thirty day running average), 0.6 (daily average not to be exceeded more than two days in any running thirty day period), and 0.72 (maximum daily average). (3)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
- (2) Any facility <250 MMBtu/hour may petition for an application to meet requirements for >250 MMBtu/hour facilities if continuous monitoring is in place.
- (3) If no continuous monitoring is in place, must meet 0.6 limit.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : No. 2 and lighter: 0.2; No. 4 and heavier: 0.5 (2)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
(2) May be exceeded if emission control equipment is in place

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Commercial liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.0

Compliance Procedures :: 1a, 2c, 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

{1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : Commercial liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.6

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

{1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : V, Inner Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Noncommercial gas or liquid {2}

Emissions Limits:
(lb SO2/MMBtu) : 0.6

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
- {2} Noncommercial fuel: any gaseous or liquid fuel generated as a byproduct or waste product which is not specifically produced or manufactured for sale; any mixture of a noncommercial and a commercial fuel oil where at least 50% of the heat content is derived from the noncommercial fuel portion.
-

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : V, Outer Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : No. 2 and lighter: 0.3; No. 4 and heavier: 1.0 (2)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
(2) May be exceeded if emission control equipment is in place

SO2 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : V, Outer Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Commercial liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO2 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : V, Outer Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Noncommercial gas or liquid (2)

Emissions Limits:
(lb S02/MMBtu) : 1.2

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- (1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
- (2) Noncommercial fuel: any gaseous or liquid fuel generated as a byproduct or waste product which is not specifically produced or manufactured for sale; any mixture of a noncommercial and a commercial fuel oil where at least 50% of the heat content is derived from the noncommercial fuel portion.
-

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 {1}

Applicable Area : V, Outer Zone
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(lb SO₂/MMBtu) : 0.9 (Thirty day running average), 1.2 (daily average not to be exceeded more than two days in any running thirty day period), and 1.44 (daily average maximum). {2}

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous SO₂ monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

- {1} Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.
{2} If no continuous monitoring is in place, must meet 1.2.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1a, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : PENNSYLVANIA
Region : 3
State Regulation Citation : Pennsylvania Air Pollution Control Act, Title 25 (1)

Applicable Area : Statewide- all not covered under other provisions
Applicable Time Frame : Before 07/01/72
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(ppm S02) : 500 (expressed as S0)

Compliance Procedures :: 1a, 2c, 3a or 3c, 4g, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by the Department]
3a. Monitoring Requirements => continuous S02 monitoring [For facilities >250 MMBtu/hour with continuous monitoring in place]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [As specified by the Department]
5d. Reporting => specified by the Director

Footnotes:

(1) Area I: all non-Air Basin Areas. Area II: Erie, Harrisburg, York, Lancaster, Scranton, and Wilkes-Barre Air Basins. Area III: Allentown, Bethlehem, Easton, Reading, Upper Beaver Valley, and Johnstown Air Basins. Area IV: Allegheny County, Beaver Valley, and Monongahela Valley Air Basins. Area V: Southeast Pennsylvania Air Basin.

S02 Regulation Report

State : VIRGINIA
Region : 3
State Regulation Citation : Virginia State Air Pollution Control Board Regulations, Part IV (1)

Applicable Area : 1 through 6
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(1b S02/MMBtu) : see Equation (2)

Compliance Procedures :: 1b, 2a, 3a or 3e, 4a or 4g, 5a or 5e
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Three separate runs]
3a. Monitoring Requirements => continuous S02 monitoring
3e. Monitoring Requirements => other [As specified by the Virginia State Air Pollution Control Board.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As approved by the Board.]
5a. Reporting => specified in 40 CFR Part 60
5e. Reporting => other [Upon request of the Board]

Footnotes:

- (1) Virginia Air Quality Control Regions (AQCR): 1: Eastern Tennessee-Southwestern Virginia Interstate AQCR. 2: Valley of Virginia Intrastate AQCR. 3: Central Virginia Intrastate AQCR. 4: Northeastern Virginia Intrastate AQCR. 5: State Capital Intrastate AQCR. 6: Hampton Roads Intrastate AQCR. 7: National Capital Interstate AQCR.
(2) $S = 2.64K$, Where S = allowable emission of sulfur dioxide in lbs/hour and K = actual heat input at total capacity expressed in Btu x 10⁶ per hour.

S02 Regulation Report

State : VIRGINIA
Region : 3
State Regulation Citation : Virginia State Air Pollution Control Board Regulations, Part IV. (1)

Applicable Area : 7
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid or gaseous

Emissions Limits:
(lb SO2/MMBtu) : See equation (2)

Compliance Procedures :: 1b, 2a or 2c, 3a or 3e, 4a or 4g, 5a or 5e
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Three separate runs]
2c. Test Methods => other testing [As approved by the Board]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [As specified by the Board]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As approved by the Board]
5a. Reporting => specified in 40 CFR Part 60
5e. Reporting => other [Upon request of the Board]

Footnotes:

- (1) Virginia Air Quality Control Regions (AQCR): 1: Eastern Tennessee-Southwestern Virginia Interstate AQCR. 2: Valley of Virginia Intrastate AQCR. 3: Central Virginia Intrastate AQCR. 4: Northeastern Virginia Intrastate AQCR. 5: State Capital Intrastate AQCR. 6: Hampton Roads Intrastate AQCR. 7: National Capital Interstate AQCR.
(2) $S = 1.06 K$, Where S = allowable emissions of SO2 in lbs/ hour and K = actual heat input at total capacity.

S02 Regulation Report

State : VIRGINIA
Region : 3
State Regulation Citation : Virginia State Air Pollution Control Board Regulations, Part IV. (1)

Applicable Area : 7
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : See equation (2)

Compliance Procedures :: 1b, 2a or 2c, 3a or 3e, 4a or 4g, 5a or 5e
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Three separate runs]
2c. Test Methods => other testing [As approved by the Board]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [As specified by the Board]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As approved by the Board]
5a. Reporting => specified in 40 CFR Part 60
5e. Reporting => other [Upon request of the Board]

Footnotes:

- (1) Virginia Air Quality Control Regions (AQCR): 1: Eastern Tennessee-Southwestern Virginia Interstate AQCR. 2: Valley of Virginia Intrastate AQCR. 3: Central Virginia Intrastate AQCR. 4: Northeastern Virginia Intrastate AQCR. 5: State Capital Intrastate AQCR. 6: Hampton Roads Intrastate AQCR. 7: National Capital Interstate AQCR.
(2) $S = 1.52 K$, Where S = allowable emissions of SO2 in lbs/ hour and K = actual heat input at total capacity.

S02 Regulation Report

State : VIRGINIA
Region : 3
State Regulation Citation : Virginia State Air Pollution Control Board Regulations, Part IV. (1)

Applicable Area : 7
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Combinations

Emissions Limits:
(1b S02/MMBtu) : see Equation (2)

Compliance Procedures :: 1b, 2a or 2c, 3a or 3e, 4a or 4g, 5c or 5e
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Three separate runs]
2c. Test Methods => other testing [As approved by the Board]
3a. Monitoring Requirements => continuous S02 monitoring
3e. Monitoring Requirements => other [As specified by the Board]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [As approved by the Board]
5c. Reporting => specified in 40 CFR Part 51
5e. Reporting => other [Upon request of the Board]

Footnotes:

- (1) Virginia Air Quality Control Regions (AQCR): 1: Eastern Tennessee-Southwestern Virginia Interstate AQCR. 2: Valley of Virginia Intrastate AQCR. 3: Central Virginia Intrastate AQCR. 4: Northeastern Virginia Intrastate AQCR. 5: State Capital Intrastate AQCR. 6: Hampton Roads Intrastate AQCR. 7: National Capital Interstate AQCR.
- (2) $PS = K (x(1.06) + y(1.52)) / (x + y)$. Where PS = prorated allowable emissions of S02 expressed in lbs/hour, x = percentage of actual heat input at total capacity derived from liquid or gaseous fuel, y = percentage of actual heat input at total capacity derived from solid fuels, and K = actual heat input at total capacity expressed as Btu x 10⁶ per hour.
-

S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : I and II, Kammer plant and similar units
Applicable Time Frame : After 08/17/71
Facility Type : a (2)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.8

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 {1}

Applicable Area : III, Fort Martin Power Station and similar units. {2}
Applicable Time Frame : Global
Facility Type : a {3}
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO₂/MMBtu) : Less than or equal to 3.1

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous SO₂ monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
-

S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : I and II
Applicable Time Frame : Before 08/17/88
Facility Type : b and c (2)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.1

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.

SO2 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 {1}

Applicable Area : III, Harrison Power Station and similar units {2}
Applicable Time Frame : Global
Facility Type : a {3}
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(1b SO2/MMBtu) : Less than or equal to 5.12

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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SO2 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 {1}

Applicable Area : III, Albright Power Station and similar units {2}
Applicable Time Frame : Global
Facility Type : a {3}
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.2

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : III (2)
Applicable Time Frame : Global
Facility Type : b and c (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.2

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : III, Rivesville Power Station and similar units (2)
Applicable Time Frame : Global
Facility Type : a (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 3.2

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous S02 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : III, Philip Sporn Power Station and similar units (2)
Applicable Time Frame : Global
Facility Type : a (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 3.2

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance]
3a. Monitoring Requirements => continuous S02 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Not including Kanawha, Putnam, or Falls Counties or the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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SO2 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : I and II, Mitchell Plant and similar units
Applicable Time Frame : Before 08/17/71
Facility Type : a (2)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(1b SO2/MMBtu) : Less than or equal to 7.5

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing; other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.

S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 {1}

Applicable Area : I and II, Willow Island Station and similar units
Applicable Time Frame : Before 08/17/81
Facility Type : a {2}
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(1b S02/MMBtu) : Less than or equal to 2.7

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous S02 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- {1} West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- {2} Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : Region IV of Priority Region III, John Amos Plant and similar units (2)
Applicable Time Frame : Global
Facility Type : a (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.6

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous S02 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Region IV includes Kanawha, Putnam, and Falls Counties and the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : Region IV of Priority Region III, Kanawha River Plant and similar units (2)
Applicable Time Frame : Global
Facility Type : a (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO₂/MMBtu) : Less than or equal to 1.6

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous SO₂ monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Region IV includes Kanawha, Putnam, and Falls Counties and the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 {1}

Applicable Area : Region VII of Priority Region I, Mt. Storm Plant and similar units {2}
Applicable Time Frame : Before 08/17/71
Facility Type : a {3}
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 2.7

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous S02 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Region VII includes the Grant Union district, and the Elk, New Creek, and Piedmont districts of Mineral County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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SO2 Regulation Report

State : WEST VIRGINIA
Region : 3
State Regulation Citation : West Virginia Code of State Regulations, Title 45 (1)

Applicable Area : Region IV of Priority Region III (2)
Applicable Time Frame : Before 08/17/71
Facility Type : b and c (3)
Facility Size (MMBtu/hr) : Greater than or equal to 10
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.6

Compliance Procedures :: 1b or 1c, 2b4, 3a, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Equivalent fuel sulfur content to achieve compliance.]
3a. Monitoring Requirements => continuous SO2 monitoring
4d. Averaging Time => 24 hours
5d. Reporting => specified by the Director

Footnotes:

- (1) West Virginia Priority Region I: Brooke, Hancock, Marshall, and Ohio Counties; Grant Union district; Elk, New Creek, and Piedmont districts of Mineral County. Priority Region II: Jackson, Pleasants, Tyler, Wetzel, and Wood Counties. Priority Region III: All other Counties and districts not included above.
- (2) Region IV includes Kanawha, Putnam, and Falls Counties and the Kanawha Magisterial district of Fayette County.
- (3) Facility Type "a" is any fuel burning unit which has as its primary purpose the generation of steam or other vapor to produce electric power for sale. Facility Type "b" is any fuel burning unit not classified as Type "a" or Type "c," such as industrial pulverized-fuel-fired furnaces, cyclone furnaces, gas-fired and liquid-fuel-fired units. Facility Type "c" is any hand-fired or stoker-fired fuel burning unit classified as a Type "a" unit.
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S02 Regulation Report

State : ALABAMA
Region : 4
State Regulation Citation : Chapter 5 and Chapter 14

Applicable Area : Category I counties, and Jackson county (1)
Applicable Time Frame : Global
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.8

Compliance Procedures :: 1c, 2a, 2b4, 2c, 3a, 3c, 3d, 3e, 4d, 5b, 5c
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Operating at or above the maximum capacity which such installation is capable of being operated.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b4. Test Methods => fuel testing: other [The sulfur content of fuel, as burned, except natural gas, shall be determined in accordance with current recognized ASTM procedures.]
2c. Test Methods => other testing [The Division may conduct tests and take samples of air contaminants, fuel, process material or other material which may affect emissions from any source.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators, existing prior to 8/17/71, with a heat input greater than or equal to 250 MMBtu/hr, equipped with a flue gas desulfurization unit. May be required for other sources.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [As specified by the Director. Continuous O2 and CO2 monitoring when these measurements are required to convert S02 data to the emission standard.]
4d. Averaging Time => 24 hours [Summarized monthly]
5b. Reporting => state regulation [Chapter 7, 1.7.2; Daily averages and monthly summary of emissions, and sulfur content of fuel, shall be submitted to the Director biannually.]
5c. Reporting => specified in 40 CFR Part 51 [Appendix P]

Footnotes:

(1) Refers to counties classified as Class I or Class II in the State of Alabama Air Pollution Control Commission's Rules and Regulations, Appendix B, October 3, 1986.

S02 Regulation Report

State : ALABAMA
Region : 4
State Regulation Citation : Chapter 5 and Chapter 14

Applicable Area : Category II counties {1}
Applicable Time Frame : Global
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.0

Compliance Procedures :: 1c, 2a, 2b4, 2c, 3a, 3c, 3d, 3e, 4d, 5b, 5c
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Operating at or above the maximum capacity which such installation is capable of being operated.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b4. Test Methods => fuel testing: other [The sulfur content of fuel, as burned, except natural gas, shall be determined in accordance with current recognized ASTM procedures.]
2c. Test Methods => other testing [The Division may conduct tests and take samples of air contaminants, fuel, process material or other material which may affect emissions from any source.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators, existing prior to 8/17/71, with a heat input greater than or equal to 250 MMBtu/hr, and equipped with a flue gas desulfurization unit. May be required for other sources.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [As specified by the Director. Continuous O2 and CO2 monitoring when these measurements are required to convert SO2 data to the emission standard.]
4d. Averaging Time => 24 hours [Summarized monthly]
5b. Reporting => state regulation [Chapter 7, 1.7.2; Daily averages and monthly summary of emissions, and sulfur content of fuel, shall be submitted to the Director biannually.]
5c. Reporting => specified in 40 CFR Part 51 [Appendix P]

Footnotes:

{1} Refers to counties classified as Class I or Class II in the State of Alabama Air Pollution Control Commission's Rules and Regulations, Appendix B, October 3, 1986.

S02 Regulation Report

State : ALABAMA
Region : 4
State Regulation Citation : Chapter 5 and Chapter 14

Applicable Area : Jackson county (1)
Applicable Time Frame : Global
Facility Type : Electric utility steam generating installations
Facility Size (MMBtu/hr) : Greater than or equal to 5000
Fuel Type : All fossil fuels

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1c, 2a, 2b4, 2c, 3a, 3b, 3c, 3d, 3e, 4d, 5b, 5c
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Operating at or above the maximum capacity which such installation is capable of being operated.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b4. Test Methods => fuel testing: other [The sulfur content of fuel, as burned, except natural gas, shall be determined in accordance with current recognized ASTM procedures.]
2c. Test Methods => other testing [The Division may conduct tests and take samples of air contaminants, fuel, process material or other material which may affect emissions from any source.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators, existing prior to 8/17/71, with a heat input greater than or equal to 250 MMBtu/hr, and equipped with a flue a gas desulfurization unit. May be required for other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Required if the total rated capacity is greater than or equal to 1500 Btu per hour.]
3c. Monitoring Requirements => sulfur content of fuel
3d. Monitoring Requirements => quantity of fuel
3e. Monitoring Requirements => other [As specified by the Director. Continuous O2 and CO2 monitoring when these measurements are required to convert S02 data to the emission standard.]
4d. Averaging Time => 24 hours [Summarized monthly]
5b. Reporting => state regulation [Chapter 7, 1.7.2; Daily averages and monthly summary of emissions, and sulfur content of fuel, shall be submitted to the Director biannually.]
5c. Reporting => specified in 40 CFR Part 51 [Appendix P]

Footnotes:

(1) Refers to counties classified as Class I or Class II in the State of Alabama Air Pollution Control Commission's Rules and Regulations, Appendix B, October 3, 1986.

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Leon county, Wakulla county, and the city of Tallahassee's A.B.Hopkins and Purdom
Generating Stations
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.87

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate
sampling procedure after departmental approval or if such procedure is
currently part of the source operating permit.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for sources with S02 emission control
equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess
emissions.]

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Duval county excluding the area north of Hecksher Drive
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.65

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for sources with S02 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Duvall county north of Hecksher Drive excluding Jacksonville Electric Authority
Northside Generating Stations
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.5

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate
sampling procedure after departmental approval or if such procedure is
currently part of the source operating permit.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources with SO2 emission control
equipment.]
4g. Averaging Time => other [Two hour.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess
emissions.]

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Jacksonville Electric Authority's Southside and Kennedy Generating Stations; Hillsborough county including Tampa Electric Company's Gannon Station Units 1 through 4, and Hooker's Point Generating Station; Manatee county, Florida Power and Light Company's Manatee Generating Station; Dade county, Broward county, Palm Beach county, Florida Power and Light Company's Cutler Units 4, 5, and 6; Fort Lauderdale Units 4 and 5; Riveria Units 1 and 2

Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.1 {1}

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources with SO2 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

Footnotes:

{1} In the event of an energy or fuel crisis, the SO2 emission limit for Dade, Broward, and Palm Beach counties, Florida Power and Light Company's Cutler Units 4, 5, and 6, Fort Lauderdale Units 4 and 5, and Riveria Units 1 and 2 is 2.75 pounds per million Btu heat input.

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Jacksonville Electric Authority's Northside Generating Station, and Gulf Power Company's Crist Steam Plant Units 1, 2, and 3 in Escambia county
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.98

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for sources with S02 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

SO2 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : All other areas of the state
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.75

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources with SO2 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : Gulf Power Company Crist Steam Plant Units 4, 5, 6, and 7, in Escambia county
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 5.90

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources with SO2 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

S02 Regulation Report

State : FLORIDA
Region : 4
State Regulation Citation : Title 17, Chapter 17-2, sections .600(5)(b)(3), and .700

Applicable Area : All other areas of the state
Applicable Time Frame : Before 01/18/72
Facility Type : Fossil fuel steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.17

Compliance Procedures :: 1e, 2a, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [Fuel sampling and analysis may be used as an alternate sampling procedure after departmental approval or if such procedure is currently part of the source operating permit.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources with SO2 emission control equipment.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [A quarterly report explaining the nature and cause of excess emissions.]

SO2 Regulation Report

State : GEORGIA
Region : 4
State Regulation Citation : 391-3-1.02(g)

Applicable Area : Statewide
Applicable Time Frame : After 01/01/72
Facility Type : Fossil fuel fired steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fossil fuel or liquid fossil fuel and wood residue

Emissions Limits:
(lb SO2/MMBtu) : Less than 0.80 or by equation (1)

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3a, 4a, 5a
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing; other [Sulfur content of fuel by the appropriate ASTM method may be required. Heating value and ash content may be required.]
2c. Test Methods => other testing [Any sampling, computation, and analysis to determine the compliance with any of the standards shall be by methods and procedures approved by the Director prior to sampling. Burn rates and hours of operation and monthly summaries may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring [Specifically required for sources with a heat input greater than 250 million Btu's per hour and with SO2 emission control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

(1) When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: $a = y (0.80) + z (1.2) / y + z$, where y = percent of total heat input derived from liquid fossil fuel, and z = percent of total heat input derived from solid fossil fuel, and a = the allowable emission in pounds per million Btu's.

S02 Regulation Report

State : GEORGIA
Region : 4
State Regulation Citation : 391-3-1.02(g)

Applicable Area : Statewide
Applicable Time Frame : After 01/01/72
Facility Type : Fossil fuel fired steam generators
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid fossil fuel or derived from solid fossil fuel and wood residue

Emissions Limits:
(lb SO₂/MMBtu) : Less than 1.2 or by equation (1)

Compliance Procedures :: 1b, 2a, 2b4, 2c, 3a, 4a, 5a
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Sulfur content of fuel by the appropriate ASTM method may be required. Heating value and ash content may be required.]
2c. Test Methods => other testing [Any sampling, computation, and analysis to determine the compliance with any of the standards shall be by methods and procedures approved by the Director prior to sampling. Burn rates and hours of operation and monthly summaries may be required.]
3a. Monitoring Requirements => continuous SO₂ monitoring [Specifically required for sources with a heat input greater than 250 million Btu's per hour and with SO₂ emission control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

(1) When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: $a = y (0.80) + z (1.2) / y + z$, where y = percent of total heat input derived from liquid fossil fuel, and z = percent of total heat input derived from solid fossil fuel, and a = the allowable emission in pounds per million Btu's.

S02 Regulation Report

State : GEORGIA
Region : 4
State Regulation Citation : 391-3-1.02(g)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fossil fuel fired steam generators
Facility Size (MMBtu/hr) : Less than 100
Fuel Type : All fossil fuels and wood residue

Emissions Limits:
(% S) : Less than or equal to 2.5, by weight (1)

Compliance Procedures :: 1b, 2b4, 2c, 3a, 4a, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Sulfur content of fuels by the appropriate ASTM method may be required. Heating value and ash content of fuel may be required.]
2c. Test Methods => other testing [Any sampling, computation, and analysis to determine the compliance with any of the standards shall be by methods and procedures approved by the Director prior to sampling. Burn rates, hours of operation, and monthly summaries may be required.]
3a. Monitoring Requirements => continuous S02 monitoring [Specifically required for sources with a heat input greater than 250 MMBtu per hour and with S02 emission control equipment. These sources must comply with Performance Specification 2 of Appendix B, 40 CFR part 60.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [(6)2(vi); A quarterly report summarizing the nature and cause of excess emissions; emission averages for each averaging period during which the standard was exceeded; the data and time identifying any period if and when the continuous emission monitoring system was inoperative and the nature of system repairs or adjustments (proof required). Data reporting and reduction procedures including alternative and or equivalent emission monitoring may vary from those specified, with Director approval, if they are at least as accurate as the specified procedures.]

Footnotes:

(1) The Director may allow fuel with a higher sulfur content to be used provided that the source utilizes sulfur removal and that the emissions do not exceed the standard utilizing no sulfur removal.

S02 Regulation Report

State : GEORGIA
Region : 4
State Regulation Citation : 391-3-1.02(g)

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fossil fuel fired steam generators
Facility Size (MMBtu/hr) : Greater than or equal to 100
Fuel Type : All fossil fuels and wood residue

Emissions Limits:
(% S) : Less than or equal to 3.0, by weight (1)

Compliance Procedures :: 1b, 2b4, 2c, 3a, 4a, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2b4. Test Methods => fuel testing: other [Sulfur content of fuels by the appropriate ASTM method may be required. Heating value and ash content of fuel may be required.]
2c. Test Methods => other testing [Any sampling, computation, and analysis to determine the compliance with any of the standards shall be by methods and procedures approved by the Director prior to sampling. Burn rates, hours of operation, and monthly summaries may be required.]
3a. Monitoring Requirements => continuous S02 monitoring [Specifically required for sources with a heat input greater than 250 MMBtu per hour and with S02 emission control equipment. These sources must comply with Performance Specification 2 of Appendix B, 40 CFR part 60.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [(6)2(vi); A quarterly report summarizing the nature and cause of excess emissions; emission averages for each averaging period during which the standard was exceeded; the data and time identifying any period if and when the continuous emission monitoring system was inoperative and the nature of system repairs or adjustments (proof required). Data reporting and reduction procedures including alternative and or equivalent emission monitoring may vary from those specified, with Director approval, if they are at least as accurate as the specified procedures.]

Footnotes:

(1) The Director may allow fuel with a higher sulfur content to be used provided that the source utilizes sulfur removal and that the emissions do not exceed the standard utilizing no sulfur removal.

SO2 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid/gaseous fuel and solid fuel

Emissions Limits:
(lb SO2/MMBtu) : As specified in Appendix B to 401 KAR 61:015. {1}

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required if a source does not use a flue gas desulfurization device and the emissions are monitored by fuel analysis.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:
{1} Appendix B, 401 KAR 61:015 is included in this document at the end of the Kentucky records.

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Statewide
Applicable Time Frame : Before 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Liquid/gaseous fuel and solid fuel

Emissions Limits:
(lb SO2/MMBtu) : As specified in Appendix B to 401 KAR 61:015. {1}

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required if a source does not use a flue gas desulfurization device and the emissions are monitored by fuel analysis.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:

{1} Appendix B, 401 KAR 61:015 is included in this document at the end of the Kentucky records.

SO2 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Different fuels burned simultaneously in any combination

Emissions Limits:
(lb SO2/MMBtu) : Determined by proration formula (1)

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required if a source does not use a flue gas desulfurization device and the emissions are monitored by fuel analysis.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:

(1) Allowable Sulfur Dioxide Emission, lb/MMBtu = $y(a) + z(b) / y + z$, where y is the percent of total heat input derived from liquid or gaseous fuel; z is the percent of total heat input derived from solid fuel; a is the allowable sulfur dioxide emission in pounds per million BTU heat input derived from liquid or gaseous fuel; and b is the allowable sulfur dioxide emissions in pounds per million BTU heat input derived from solid fuel. An alternate emission rate apportioned without regard to individual affected facility heat input may be established by the Cabinet.

SO2 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Statewide
Applicable Time Frame : Before 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Different fuels burned simultaneously in any combination

Emissions Limits:
(lb SO2/MMBtu) : Determined by proration formula (1)

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:

(1) Allowable Sulfur Dioxide Emission, lb/MMBtu = $y(a) + z(b) / y + z$, where y is the percent of total heat input derived from liquid or gaseous fuel; z is the percent of total heat input derived from solid fuel; a is the allowable sulfur dioxide emission in pounds per million BTU heat input derived from liquid or gaseous fuel; and b is the allowable sulfur dioxide emissions in pounds per million BTU heat input derived from solid fuel. An alternate emission rate apportioned without regard to individual affected facility heat input may be established by the Cabinet.

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 59, sections .005 and .015

Applicable Area : Statewide
Applicable Time Frame : After 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Less than or equal to 10.0
Fuel Type : Liquid or gaseous fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than 3.0

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 3a, 4c, 4g, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [The total rated capacity of all affected facilities within a source. A source may petition to establish an allowable emission rate which may be apportioned without regard to individual heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required for performance evaluation of the CEMs.]
2b1. Test Methods => fuel testing: ASTM [Gross calorific value by D-240-76, for liquid fuel, or by D-1826-64(70) for gaseous fuel, may be required. Elemental analysis by D-1137-53(75), D-1945-64(73), or D-1946-67(72) may be required.]
2c. Test Methods => other testing [Fuel sampling and analysis may be required in place of continuous emission monitoring if the facility does not use a FGD device.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
4c. Averaging Time => 3 hours
4g. Averaging Time => other [Arithmetic average of three contiguous one hour periods.]
5b. Reporting => state regulation [59.005.3(3); When a continuous monitoring system is required, a written report of excess emissions shall be submitted each calendar quarter. It shall include the date, time, and magnitude of excess emissions; all hourly averages on computer tape or cards; the date, time, nature, and cause of any CEM malfunction and the corrective action or preventative measures adopted; and when no excess emissions have occurred and the CEMs have not been inoperable, a statement verifying this. A file shall be maintained for two years of all measurements, including CEM performance testing measurements, evaluations, calibration checks, adjustments, and maintenance.]

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 59, sections .005 and .015

Applicable Area : Statewide
Applicable Time Frame : After 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than 10 and less than or equal to 250
Fuel Type : Liquid or gaseous fuel

Emissions Limits:
(lb SO₂/MMBtu) : 7.7223 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.04106 power.

Compliance Procedures :: 1c, 2a, 2b1, 2c, 3a, 4c, 5b

- 1c. Heat Input Determination => total plant design rated (MMBtu/hr) [The total rated capacity of all affected facilities within a source. A source may petition to establish an allowable emission rate which may be apportioned without regard to individual heat input.]
- 2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required for performance evaluation of the CEMs.]
- 2b1. Test Methods => fuel testing: ASTM [Gross calorific value by D-240-76, for liquid fuel, or by D-1826-64(70) for gaseous fuel, may be required. Elemental analysis by D-1137-53(75), D-1945-64(73), or D-1946-67(72) may be required.]
- 2c. Test Methods => other testing [Fuel sampling and analysis may be required in place of CEMs if the facility does not use a FGD device.]
- 3a. Monitoring Requirements => continuous SO₂ monitoring [May be required. It is not if natural gas is the only fuel burned.]
- 4c. Averaging Time => 3 hours
- 5b. Reporting => state regulation [59.005.3(3); When a continuous monitoring system is required, a written report of excess emissions shall be submitted each calendar quarter. It shall include the date, time, and magnitude of excess emissions; all hourly averages on computer tape or cards; the date, time, nature, and cause of any CEM malfunction and the corrective action or preventative measures adopted; and when no excess emissions have occurred and the CEMs have not been inoperable, a statement verifying this. A file shall be maintained for two years of all measurements, including CEM performance testing measurements, evaluations, calibration checks, adjustments, and maintenance.]

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 59, sections .005 and .015

Applicable Area : Statewide
Applicable Time Frame : After 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Less than or equal to 10.0
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 5.0

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 3a, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [The total rated capacity of all affected facilities within a source. A source may petition to establish an allowable emission rate which may be apportioned without regard to individual heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required for performance evaluation of the CEMs.]
2b1. Test Methods => fuel testing: ASTM [Gross calorific value by D-2015-66(72) and elemental analysis by D-3178-73 or D-3176-74 may be required.]
2c. Test Methods => other testing [Fuel sampling and analysis may be required in place of CEMs if the facility does not use a FGD device.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [59.005.3(3); When a continuous monitoring system is required, a written report of excess emissions shall be submitted each calendar quarter. It shall include the date, time, and magnitude of excess emissions; all hourly averages on computer tape or cards; the date, time, nature, and cause of any CEM malfunction and the corrective action or preventative measures adopted; and when no excess emissions have occurred and the CEMs have not been inoperable, a statement verifying this. A file shall be maintained for two years of all measurements, including CEM performance testing measurements, evaluations, calibration checks, adjustments, and maintenance.]

SO2 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 59, sections .005 and .015

Applicable Area : Statewide
Applicable Time Frame : After 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than 10 and less than or equal to 250
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : 13.8781 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.4434 power.

Compliance Procedures :: 1c, 2a, 2b1, 2c, 3a, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [The total rated capacity of all affected facilities within a source. A source may petition to establish an allowable emission rate which may be apportioned without regard to individual heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required for performance evaluation of the CEMs.]
2b1. Test Methods => fuel testing: ASTM [Gross calorific value by D-2015-66(72) and elemental analysis by D-3178-73 or D-3176-74 may be required.]
2c. Test Methods => other testing [Fuel sampling and analysis may be required in place of CEMs if the facility does not use a FGD device.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [59.005.3(3); When a continuous monitoring system is required, a written report of excess emissions shall be submitted each calendar quarter. It shall include the date, time, and magnitude of excess emissions; all hourly averages on computer tape or cards; the date, time, nature, and cause of any CEM malfunction and the corrective action or preventative measures adopted; and when no excess emissions have occurred and the CEMs have not been inoperable, a statement verifying this. A file shall be maintained for two years of all measurements, including CEM performance testing measurements, evaluations, calibration checks, adjustments, and maintenance.]

SO2 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 59, sections .005 and .015

Applicable Area : Statewide
Applicable Time Frame : After 04/09/72
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Different fuels burned simultaneously in any combination

Emissions Limits:
(lb SO2/MMBtu) : Determined by proration formula (1)

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 3a, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [The total rated capacity of all affected facilities within a source. A source may petition to establish an allowable emission rate which may be apportioned without regard to individual heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 may be required for performance evaluation of the CEMs.]
2b1. Test Methods => fuel testing: ASTM [Gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-76, and gaseous fuel by D-1826-64(70) may be required. Elemental analysis of solid fuel by D-3178-73, or D-3176-74, of liquid fuel by D-1137-53(75), and of gaseous fuel by D-1946-67(72), or D-1945-64(73) may be required.]
2c. Test Methods => other testing [Fuel sampling and analysis may be required in place of CEMs if the facility does not use a FGD device.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [59.005.3(3); When a continuous monitoring system is required, a written report of excess emissions shall be submitted each calendar quarter. It shall include the date, time, and magnitude of excess emissions; all hourly averages on computer tape or cards; the date, time, nature, and cause of any CEM malfunction and the corrective action or preventative measures adopted; and when no excess emissions have occurred and the CEMs have not been inoperable, a statement verifying this. A file shall be maintained for two years of all measurements, including CEM performance testing measurements, evaluations, calibration checks, adjustments, and maintenance.]

Footnotes:

(1) Allowable Sulfur Dioxide Emission, lb/MMBtu = $y(a) + z(b) / y + z$, where y is the percent of total heat input derived from liquid or gaseous fuel; z is the percent of total heat input derived from solid fuel; a is the allowable sulfur dioxide emission in pounds per million BTU heat input derived from liquid or gaseous fuel; and b is the allowable sulfur dioxide emissions in pounds per million BTU heat input derived from solid fuel. An alternate emission rate apportioned without regard to individual affected facility heat input may be established by the Cabinet.

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Counties classified as VA with respect to sulfur dioxide
Applicable Time Frame : Global 08/17/71
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than or equal to 1500
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.60 {1}

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required if a source does not use a flue gas desulfurization device and the emissions are monitored by fuel analysis.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:

{1} Limitation for the annual average SO2 emission rate from all existing and new affected facilities combined at the source.

S02 Regulation Report

State : KENTUCKY
Region : 4
State Regulation Citation : Title 401, Chapter 61, section 015

Applicable Area : Counties classified as IA
Applicable Time Frame : Global 08/17/71
Facility Type : Indirect heat exchangers greater than one MMBtu/hr.
Facility Size (MMBtu/hr) : Greater than or equal to 15000
Fuel Type : All fossil fuel

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 8.0 {1}

Compliance Procedures :: 1c, 1e, 2a, 2b1, 2c, 2d, 3a, 3c, 3d, 3e, 3f, 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Total rated heat input capacity of all affected facilities.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2b1. Test Methods => fuel testing: ASTM [The gross calorific value of solid fuel by D-2015-66(72), of liquid fuel by D-240-64(73), and gaseous fuel by D-1826-64(70).]
2c. Test Methods => other testing [The fuel burn rate and the material balance over the steam generation system.]
2d. Test Methods => other testing [A performance test is required for facilities with an alternate emission rate.]
3a. Monitoring Requirements => continuous S02 monitoring [Not required if a source does not use a flue gas desulfurization device and the emissions are monitored by fuel analysis.]
3c. Monitoring Requirements => sulfur content of fuel [May be required as specified by the Cabinet.]
3d. Monitoring Requirements => quantity of fuel [It may be required to be measured daily or at shorter intervals.]
3e. Monitoring Requirements => other [The heating value and ash content of fuels measured at least weekly may be required.]
3f. Monitoring Requirements => other [It may be required to measure hourly the average electrical output and the minimum and maximum generation rate.]
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [61.015-6(4)(5); Records of required monitoring data summarized monthly may be required.]

Footnotes:

{1} The Cabinet will allow one affected facility, as specified on the operating permit, to emit S02 at this level when the facility is generating flue gases for use in any experimental S02 removal system.

APPENDIX B

to

401 KAR 61:015

All standards are twenty-four (24) hour averages.

For sources having a total heat input (as determined by Section 3(1)) of:		The standard (in pounds per million BTU actual heat input) is (based upon the classification with respect to sulfur dioxide of the county in which the source is located):																	
		CLASS I			CLASS II			CLASS III			CLASS IV			CLASS V			CLASS VI		
(MM BTU/Hr.)		Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	Solid Fuel	Liquid/ Gaseous Fuel	
10 or less		3.0	5.0	3.0	5.0	4.0	6.0	4.6	7.0	5.4	8.0	5.4	8.0	6.0	9.0	6.0	4.0	9.0	
50		1.5	2.4	1.5	3.9	2.4	3.7	3.2	4.8	4.3	6.4	4.3	6.4	4.9	7.3	4.9	7.3	7.3	
100		1.2	1.8	1.2	3.6	2.0	3.6	2.7	4.1	4.0	5.9	4.0	5.9	4.5	6.7	4.5	6.7	6.7	
150		1.0	1.5	1.0	3.3	1.8	2.7	2.5	3.7	3.7	5.6	3.7	5.6	4.3	6.4	4.3	6.4	6.4	
200		0.9	1.3	0.9	3.2	1.6	2.5	2.3	3.5	3.6	5.4	3.6	5.4	4.1	6.2	4.1	6.2	6.2	
250-1500		0.8	1.2	0.8	3.1	1.5	2.3	2.2	3.3	3.5	5.2	3.5	5.2	4.0	6.0	4.0	6.0	6.0	
greater than 1,500 but less than 21,000		0.8	1.2	0.8	1.2	1.5	2.3	2.2	3.3	3.5	5.2	3.5	5.2	4.0	6.0	4.0	6.0	6.0	
21,000 or more		0.8	1.2	0.8	1.2	1.5	2.3	2.2	3.3	3.5	5.2	3.5	5.2	4.0	6.0	4.0	6.0	6.0	

Interpolation of allowable emissions for rated capacity values between 10 and 250 million BTU heat input may be accomplished by use of the equation shown below for the appropriate fuel specified. In all equations Y = allowable sulfur dioxide emission in pounds per million BTU actual heat input, X = millions of BTU per hour heat input capacity rating as determined by Section 3(1).

COUNTY CLASS	FUEL	ALLOWABLE (POUNDS/MM BTU)
I	Liquid/Gaseous	$Y = 17.7223(X^{-0.4104})$
	Solid	$Y = 13.8781(X^{-0.4034})$
IA	Liquid/Gaseous	$Y = 17.7223(X^{-0.4104})$
	Solid	$Y = 17.8382(X^{-0.1485})$
II	Liquid/Gaseous	$Y = 18.6481(X^{-0.3047})$
	Solid	$Y = 11.9134(X^{-0.2979})$
III	Liquid/Gaseous	$Y = 17.7664(X^{-0.2291})$
	Solid	$Y = 11.9872(X^{-0.2356})$
IV	Liquid/Gaseous	$Y = 17.3439(X^{-0.1347})$
	Solid	$Y = 10.8875(X^{-0.1338})$
IVA	Liquid/Gaseous	$Y = 17.3439(X^{-0.1347})$
	Solid	$Y = 10.8875(X^{-0.1338})$
V	Liquid/Gaseous	$Y = 18.0189(X^{-0.1260})$
	Solid	$Y = 12.9784(X^{-0.1260})$
VA	Liquid/Gaseous	$Y = 18.0189(X^{-0.1260})$
	Solid	$Y = 12.9784(X^{-0.1260})$

An alternate emission rate apportioned without regard to individual affected facility heat input may be established by the cabinet. Such allowable emission rate shall be determined according to the following equation: $F = (AB + BC) / C$, where A = the allowable emission rate (in pounds per million BTU input); B = the total rated heat input (in millions of BTU per hour) of all affected facilities commenced on or after the applicable classification date within a source, including those for which an application to construct, modify, or reconstruct has been submitted to the cabinet; C = the total rated heat input (in millions of BTU per hour) of all affected facilities within a source, including those for which an application to construct, modify, or reconstruct has been submitted to the cabinet; D = the total emission rate (in pounds per million BTU input); E = the total rated heat input (in millions of BTU per hour) of all affected facilities commenced before the applicable classification date; F = the alternate allowable emission rate (in pounds per actual million BTU input).

SO2 Regulation Report

State : MISSISSIPPI
Region : 4
State Regulation Citation : APC-S-1, APC-S-2

Applicable Area : Statewide
Applicable Time Frame : Before 05/11/72
Facility Type : Fuel burning equipment
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to the average annual emissions in 1970.

Compliance Procedures :: 1e, 2a, 2b4, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack analysis by EPA reference methods, if a permit requirement.]
2b4. Test Methods => fuel testing: other [Fuel testing, if a permit requirement, will include percent sulfur content, percent moisture, average Btu heating value, etc.]
3e. Monitoring Requirements => other [Specified in each permit.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [APC-S-2; Records of operation and emission data at Commission's request.]

SO2 Regulation Report

State : MISSISSIPPI
Region : 4
State Regulation Citation : APC-S-1, APC-S-2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Modified fuel burning equipment
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack analysis by EPA
reference methods, if a permit requirement.]
2b4. Test Methods => fuel testing: other [Fuel testing, if a permit requirement, will include
percent sulfur content, percent moisture, average Btu heating value, etc.]
3e. Monitoring Requirements => other [As specified in each permit.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [APC-S-2; Records of operation and emission data at
Commission's request.]

SO2 Regulation Report

State : MISSISSIPPI
Region : 4
State Regulation Citation : APC-S-1, APC-S-2

Applicable Area : Statewide
Applicable Time Frame : After 05/11/72
Facility Type : Indirect heat transfer units
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.8

Compliance Procedures :: 1a, 2a, 2b4, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack analysis by EPA
reference methods, if a permit requirement.]
2b4. Test Methods => fuel testing: other [Fuel testing, if a permit requirement, will include
percent sulfur content, percent moisture, average Btu heating value, etc.]
3e. Monitoring Requirements => other [As specified in each permit.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [APC-S-2; Records of operation and emission data at
Commission's request.]

SO2 Regulation Report

State : NORTH CAROLINA
Region : 4
State Regulation Citation : Title 15, NCAC subchapter 2D.0500, and .0516

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : Fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.3

Compliance Procedures :: 1e, 2a or 2b1, 2b4, 2c, 3a or 3c, 4g, 5b, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [Coal testing: sampling by D-2234-82, preparation by D-2013-72, gross calorific value by D-2015-85, moisture content by D-3173-85, and sulfur content by D-3177-84 or D-4239-85. Oil testing: gross calorific value by D-240-85, and sulfur content by D-129-64.]
2b4. Test Methods => fuel testing: other [Oil is sampled from the pipeline inlet to the fuel burning device after the standing fuel is drained.]
2c. Test Methods => other testing [Compliance may be either by determining the sulfur content of the fuel or by stack sampling.]
3a. Monitoring Requirements => continuous SO2 monitoring [SO2 emissions from facilities greater than 250 MMBtu/hr that burn coal or residual oil shall be determined by CEMs or fuel analysis, or by other procedures approved of by the Director. Regulation 604(a); Appendix P of 40 CFR part 51.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Three year calendar average.]
5b. Reporting => state regulation [.0606; This regulation is applicable to facilities greater than 250 MMBtu/hr heat input that burn coal or oil. A quarterly report of excess emissions shall include either the type and quantity of fuel burned, the BTU value, the percent sulfur, by weight, and the calculated SO2 emissions, or when CEMs are used, the emission rate in the same units as the standard, the maximum instantaneous rate, and the total SO2 emissions. Recorder charts shall be retained at least one year.]
5e. Reporting => other [Sulfur content and gross calorific value of fuel shall be reported on a dry basis.]

S02 Regulation Report

State : SOUTH CAROLINA
Region : 4
State Regulation Citation : No. 62.5, standard no. 1, section III

Applicable Area : Class 1 (Charleston County)
Applicable Time Frame : Global
Facility Type : Fuel burning operations
Facility Size (MMBtu/hr) : Less than or equal to 10
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.5

Compliance Procedures :: 1a, 2a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As required by the
Department and approved of by EPA.]
2c. Test Methods => other testing [Specified by permit.]
3e. Monitoring Requirements => other [Compliance will be by source testing, continuous monitoring, or fuel
analysis, as required by permit.]
4g. Averaging Time => other [Not specified]
5e. Reporting => other [Final test results must be submitted no later than thirty days after
on site test completion.]

SO2 Regulation Report

State : SOUTH CAROLINA
Region : 4
State Regulation Citation : No. 62.5, standard no. 1, section III

Applicable Area : Class 1 (Charleston County)
Applicable Time Frame : Global
Facility Type : Fuel burning operations
Facility Size (MMBtu/hr) : Greater than 10
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.3

Compliance Procedures :: 1a, 2a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As required by the Department and approved of by EPA.]
2c. Test Methods => other testing [Specified by permit.]
3e. Monitoring Requirements => other [Compliance will be by source testing, continuous monitoring, or fuel analysis, as required by permit.]
4g. Averaging Time => other [Not specified]
5e. Reporting => other [Final test results must be submitted no later than thirty days after on site test completion.]

S02 Regulation Report

State : SOUTH CAROLINA
Region : 4
State Regulation Citation : No. 62.5, standard no. 1, section III

Applicable Area : Class II (Aiken County and Anderson County)
Applicable Time Frame : Global
Facility Type : Fuel burning operations
Facility Size (MMBtu/hr) : Less than 1000
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.5

Compliance Procedures :: 1a, 2a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As required by the
Department and approved of by EPA.]
2c. Test Methods => other testing [Specified by permit.]
3e. Monitoring Requirements => other [Compliance will be by source testing, continuous monitoring, or fuel
analysis, as required by permit.]
4g. Averaging Time => other [Not specified]
5e. Reporting => other [Final test results must be submitted no later than thirty days after
on site test completion.]

SO2 Regulation Report

State : SOUTH CAROLINA
Region : 4
State Regulation Citation : No. 62.5, standard no. 1, section III

Applicable Area : Class II (Aiken County and Anderson County)
Applicable Time Frame : Global
Facility Type : Fuel burning operations
Facility Size (MMBtu/hr) : Greater than or equal to 1000
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.3

Compliance Procedures :: 1a, 2a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As required by the
Department and approved of by EPA.]
2c. Test Methods => other testing [Specified by permit.]
3e. Monitoring Requirements => other [Compliance will be by source testing, continuous monitoring, or fuel
analysis, as required by permit.]
4g. Averaging Time => other [Not specified]
5e. Reporting => other [Final test results must be submitted no later than thirty days after
on site test completion.]

SO2 Regulation Report

State : SOUTH CAROLINA
Region : 4
State Regulation Citation : No. 62.5, standard no. 1, section III

Applicable Area : Class III (statewide excluding Aiken County, Anderson County, and Charleston County)
Applicable Time Frame : Global
Facility Type : Fuel burning operations
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.5

Compliance Procedures :: 1a, 2a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As required by the Department and approved of by EPA.]
2c. Test Methods => other testing [Specified by permit.]
3e. Monitoring Requirements => other [Compliance will be by source testing, continuous monitoring, or fuel analysis, as required by permit.]
4g. Averaging Time => other [Not specified]
5e. Reporting => other [Final test results must be submitted no later than thirty days after on site test completion.]

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class I - Polk county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 1000, for the entire fuel burning installation, and individual units less than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.6

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the emission standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class I - Polk county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Class I - Polk county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.6

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous S02 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Class IIA - Maury county, Class IIB - Humphrey's county, Class VI - All counties not specifically classified, and Class VII - Roane county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 5.0

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IIA - Maury county, Class IIB - Humphrey's county, Class VI - All counties not specifically classified, and Class VII - Roane county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 1000, for the entire fuel burning installation, and individual units less than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 5.0

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the emission standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IIA - Maury county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IIB - Humphrey's county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.4

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class III - Sullivan county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 1000, for the entire fuel burning installation, and individual units less than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the emission standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class III - Sullivan county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Class III - Sullivan county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels excluding No. 5 and No. 6 fuel oil and coal

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 0.5, or by equation. (1)

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with S02 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

Footnotes:

(1) $Q_{S02} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{S02} = the allowable sulfur dioxide emissions in lbs S02/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal, and Z = the heat input from all other fuel.

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : No. 5 and No. 6 fuel oil and solid fuel other than coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.7, or by equation. (1)

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

Footnotes:

(1) $Q_{SO2} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{SO2} = the allowable sulfur dioxide emissions in lbs SO2/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal, and Z = the heat input from all other fuel.

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02, and Chapter 1200-3-16-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : No. 5 and No. 6 fuel oil and solid fuel other than coal

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 2.7, or by equation (1)

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous S02 monitoring [Performance Specification 2 and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

Footnotes:

(1) $Q_{S02} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{S02} = the allowable sulfur dioxide emissions in lbs S02/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuel other than coal, and Z = the heat input from all other fuel.

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : Coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.0, or by equation. (1)

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

Footnotes:

(1) $Q_{SO2} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{SO2} = the allowable sulfur dioxide emissions in lbs SO2/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal, and Z = the heat input from all other fuel.

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02, and Chapter 1200-3-16-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Coal

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 4.0, or by equation (1)

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous S02 monitoring [Performance Specification 2 and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMS malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMS have not been inoperative, repaired, or adjusted, a statement verifying this.]

Footnotes:

(1) $Q_{S02} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{S02} = the allowable sulfur dioxide emissions in lbs S02/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuel other than coal, and Z = the heat input from all other fuel.

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02, and Chapter 1200-3-16-.01 and .02

Applicable Area : Class IV - Shelby county
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All other fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.5, or by equation {1}

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2 and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

Footnotes:

{1} $Q_{SO2} = 4.0X + 2.7Y + 0.5Z / X + Y + Z$, when Q_{SO2} = the allowable sulfur dioxide emissions in lbs SO2/10⁶ BTU, and X = the heat input from coal, and Y = the heat input from No. 5 or No. 6 fuel oil and solid fuel other than coal, and Z = the heat input from all other fuel.

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, and Rhea counties
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 1000, for the entire fuel burning installation, and individual units less than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.0

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the emission standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, and Rhea counties
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.0

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE

Region : 4

State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class VI - All counties not specifically classified.

Applicable Time Frame : Before 04/03/72

Facility Type : Fuel burning installations

Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600

Fuel Type : All fossil fuels

Emissions Limits:

(lb SO₂/MMBtu) : Less than or equal to 5.0

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b

1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]

2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]

2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]

3a. Monitoring Requirements => continuous SO₂ monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO₂ pollution control equipment; the Technical Secretary may require it of other sources.]

3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]

3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]

4b. Averaging Time => 1 hour

4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]

5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, and Rhea counties
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 4.0

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

SO2 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-10-.01 and .02, and Chapter 1200-3-14-.01 and .02

Applicable Area : Class VII - Roane county
Applicable Time Frame : Before 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than or equal to 1000, for the entire fuel burning installation, and individual units greater than 600
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.8

Compliance Procedures :: 1c, 2a, 2c, 3a, 3b or 3e, 4b or 4d, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [When required by the Technical Secretary, as specified in the Tennessee Department of Public Health January 1975 edition of the "Source Sampling Manual", Chapter 3, as amended on August 17, 1977.]
2c. Test Methods => other testing [As specified by the Technical Secretary. Ambient monitoring, when required, by method in the Federal Register, Volume 36, No. 84, April 30, 1971.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators greater than 250 MMBtu/hr heat input and with SO2 pollution control equipment; the Technical Secretary may require it of other sources.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [Installation of ambient monitoring, as prescribed by the Technical Secretary, to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input.]
3e. Monitoring Requirements => other [Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment larger than 600 MMBtu/hr heat input.]
5b. Reporting => state regulation [1200-3-10.02(2); A quarterly report summarizing emission averages for each period that the standard was exceeded, the date and time the CEMs were inoperative, and the repairs or corrections that were made to the CEMs (may require proof). If there were no excess emissions and the CEMs have not been inoperative, repaired, or adjusted a statement verifying this is required.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Statewide
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Liquid fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.80

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Installation of ambient monitoring as prescribed by the Technical Secretary to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input. Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Statewide
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.20

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be allowed with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO2 monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Installation of ambient monitoring as prescribed by the Technical Secretary to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input. Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

S02 Regulation Report

State : TENNESSEE
Region : 4
State Regulation Citation : Chapter 1200-3-14-.01 and .02

Applicable Area : Statewide
Applicable Time Frame : After 04/03/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Different fossil fuels burned simultaneously.

Emissions Limits:
(lb SO₂/MMBtu) : By equation (1)

Compliance Procedures :: 1c, 2a, 2c, 3a or 3e, 4b or 4d, 5a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr) [Based on the maximum rated capacity. The heat value of the fuel not released within the fuel burning equipment shall not be considered as part of the heat input.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [As specified in the "Federal Register", Volume 42, No. 160, August 18, 1977, and amended in Volume 43, No. 57, March 23, 1978. Method 19 as specified in the "Federal Register", Volume 44, No. 113, June 11, 1979, and Method 20 as specified in the "Federal Register", Volume 44, No. 176, September 10, 1979.]
2c. Test Methods => other testing [Alternative methods may be used with Technical Secretary approval.]
3a. Monitoring Requirements => continuous SO₂ monitoring [Performance Specification 2, and 3, and the "Federal Register", Volume 40, No. 194, Appendix B.]
3e. Monitoring Requirements => other [Installation of ambient monitoring as prescribed by the Technical Secretary to demonstrate attainment and maintenance of air quality standards is required for fuel burning installations having a total rated capacity greater than 1000 MMBtu/hr heat input. Alternative monitoring procedures may be used with Technical Secretary approval.]
4b. Averaging Time => 1 hour
4d. Averaging Time => 24 hours [Required only for fuel burning installations containing units of equipment less than 600 MMBtu/hr heat input.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [1200-3-16; Each performance test shall consist of three runs for each test method. The arithmetic mean of the results will be used to determine compliance. Quarterly reports made to the Technical Secretary shall include the date, time, nature, and magnitude of excess emissions; the date, time, nature, and cause of CEMs malfunction; the corrective action taken or preventative measures adopted as a result of any malfunction, or if no excess emissions have occurred, or the CEMs have not been inoperative, repaired, or adjusted, a statement verifying this.]

Footnotes:

(1) $Y (0.80) + Z (1.2) / Y + Z$, when Y is the percent of the total heat input derived from liquid fossil fuel and Z is the percent of the total heat input derived from solid fossil fuel.

SO2 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : Before 08/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : All
Fuel Type : Residual fuel oil (No.4, 5, 6)

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.0 (1)

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250 MMBtu/hr heat input or without SO2 control equipment.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:

(1) Installations may petition for up to 6.8 lb SO2/MMBtu in major metropolitan areas if NAAQS or PSD increments are not exceeded.

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : After 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Residual fuel oil (No. 4, 5, 6)

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.0

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily damples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : After 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Residual fuel oil (No.4, 5, 6)

Emissions Limits:
(lb SO₂/MMBtu) : Less than or equal to 0.8

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by the Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO₂ monitoring [Not required for sources without SO₂ control equipment.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Less than 250
Fuel Type : Distillate fuel oil (No.1 and 2)

Emissions Limits:
(lb S02/MMBtu) : 0.3 (1)

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous S02 monitoring [Not required for sources less than 250 MMBtu/hr heat input or without S02 pollution control equipment.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:
(1) Installations may petition for up to 6.8 lb S02/MMBtu in major metropolitan areas if NAAQS or PSD increments are not exceeded.

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : After 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Distillate fuel oil (Nos. 1 and 2)

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.3

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources without SO2 control equipment or with alternative monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301, and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : After 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.2

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources without SO2 control equipment or with alternative monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301, and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

SO2 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : After 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.8

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average. This does not apply to sources in Mollis Township.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Nonmajor metropolitan areas located outside of Chicago, St. Louis (IL), or Peoria
Applicable Time Frame : Before 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Greater than 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : General formula, special formula, or alternative emission rate {1}

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources without SO2 control equipment or alternative monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301, and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:

{1} These formulas are included in this data base at the end of the Illinois reports.

SO2 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Chicago, St. Louis and Peoria major metropolitan areas
Applicable Time Frame : Before 05/31/72
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.8 (1)

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250 MMBtu/hr heat input or without SO2 pollution controls.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:

(1) Sources in Peoria metropolitan areas without flue-gas desulfurization systems as of 12/01/80 are limited to 5.5 lb SO2/MMBtu, if stack height > 154 ft. Installations may petition for approval of up to 6.8 lb SO2/MMBtu if NAAQS or PSD increment is not exceeded.

SO2 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Areas outside of the Chicago, St. Louis (IL), and Peoria major metropolitan areas
Applicable Time Frame : Before 05/31/72
Facility Type : Fuel burning installations in primary and secondary metal manufacturing facilities
Facility Size (MMBtu/hr) : Less than or equal to 250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.8, or by general formula, special formula, or alternative emission rate. {1}

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301, and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:

{1} These formulas are included in this data base at the end of the Illinois reports.

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 204

Applicable Area : Kankakee or McHenry Counties
Applicable Time Frame : Before 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.8

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other
measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by
D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content
shall be determined with a two month average of daily samples with
ninety-five percent of the samples being less than twenty percent above the
average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8,
Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250 MMBtu/hr
heat input capacity or without SO2 control equipment or with alternative
monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301, and .302; Records shall be maintained detailing
all activities pursuant to 1) any compliance program and schedule, 2) all
malfunctions, breakdowns, or startups, 3) monitoring and testing, and any
other records the Agency may require. As a minimum, yearly reports shall be
submitted detailing the nature, specific sources, and total quantities of
emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Hollis Township in Peoria County as defined on 12/1/80
Applicable Time Frame : Before 12/01/80
Facility Type : Fuel combustion facilities
Facility Size (MMBtu/hr) : Greater than 125
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.1

Compliance Procedures :: 1a, 2a or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250 MMBtu/hr heat input, or sources without SO2 controls, or with alternative monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

SO2 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : City of East Peoria, as defined on 12/01/80
Applicable Time Frame : Before 12/01/80
Facility Type : Fuel combustion facilities with flue gas desulfurization system
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.4

Compliance Procedures :: 1a, 2a or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250 MMBtu/hr heat input, or sources without SO2 controls, or with alternative monitoring procedures.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

S02 Regulation Report

State : ILLINOIS
Region : 5
State Regulation Citation : Chapter 1, parts 201 and 214

Applicable Area : Statewide
Applicable Time Frame : Before 05/31/72
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : All
Fuel Type : Combination of solid, liquid, and gaseous fuels burned simultaneously

Emissions Limits:
(lb SO2/MMBtu) : Calculated by equation (1)

Compliance Procedures :: 1a, 2a or 2b1 or 2c, 3a or 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6, or by other measurement procedures specified by Illinois EPA.]
2b1. Test Methods => fuel testing: ASTM [Sampling by D-2234, and D-2013, sulfur content by D-3177, and D-2622, and heating value by D-2015, and D-3286. Sulfur content shall be determined with a two month average of daily samples with ninety-five percent of the samples being less than twenty percent above the average.]
2c. Test Methods => other testing [Sulfuric acid mist and sulfur trioxide by Method 8, Barium-thorin titration.]
3a. Monitoring Requirements => continuous SO2 monitoring [Not required for sources less than 250MMBtu/hr heat input or without SO2 control equipment.]
3e. Monitoring Requirements => other [Alternative monitoring requirements as specified in each permit.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [201.301 and .302; Records shall be maintained detailing all activities pursuant to 1) any compliance program and schedule, 2) all malfunctions, breakdowns, or startups, 3) monitoring and testing, and any other records the Agency may require. As a minimum, yearly reports shall be submitted detailing the nature, specific sources, and total quantities of emissions. The agency shall set forth the format for these reports.]

Footnotes:

(1) $E = AX + BY + CZ$, where E = the allowable SO2 emission rate, and A = the applicable solid fuel SO2 emission standard, and B = the distillate fuel emission standard determined from the metric or english unit table at the end of the Illinois regulations, and C = the applicable residual fuel oil SO2 emission standard, and X = the actual heat input from solid fuel, and Y = the actual heat input from distillate fuel, and Z = the actual heat input from residual fuel. That portion of the actual heat input that is derived from the burning of gaseous fuels produced by the gasification of 1) solid fuel shall be included in X; 2) distillate fuel shall be included in Y; 3) residual fuel and any other liquid fuel shall be included in Z; and from the burning of by-product gases such as those produced from a blast furnace or a catalyst regeneration unit shall be included in Z. Installations may petition for up to 6.8 lb SO2/MMBtu in major metropolitan areas if NAAQS or PSD increments are not exceeded.

Section 214.183 General Formula.

(a) The general formula is:

$$E = A X^B Y^C$$

(b) Symbols used in the general formula mean the following:

E = Total allowable emission of sulfur dioxide into the atmosphere in any one-hour period from all fuel combustion emission sources owned or operated by such person and located within a 1.6 km (1 mile) radius from the center point of any such emission source.

X = Average actual stack height as determined by method outlined in Appendix C.

Y = Effective height of effluent release as determined by method outlined in Appendix C.

(c) The general formula may be used with either metric or English units as follows:

Parameter	Metric	English
E	kg/hr	lbs/hr
X, Y	m	ft
A	0.04347 kg/hr	0.007813 lbs/hr
B	0.11	0.11
C	2	2

Section 214.184 Special Formula

(a) If the maximum total emissions of sulfur dioxide into the atmosphere in any one hour period from all fuel combustion emission sources owned or operated by any person and located within a 1 mile (1.6 km) radius from the center point of any such fuel combustion emission sources exceed, during normal cyclical variations in firing rate and fuel, the emissions allowed under Section 214.183 but, as of April 1, 1978, were in compliance with either the formula detailed below or a Pollution Control Board (Board) order, then the owner or operator of the emission sources shall not cause or allow such emissions to exceed the emissions allowed under Section 214.183 or the formula detailed below, whichever the owner or operator of the emission sources determines shall apply.

$$E = 0.2222^2$$

$$H = P_1 H_1 + P_2 H_2 + \dots P_n H_n$$

(Note: $P_1 + P_2 + \dots P_n = 1$)

(c) As used in these equations, symbols mean the following:

E = total emission of sulfur dioxide, in pounds per hour, into the atmosphere in any one hour period from all fuel combustion emission sources owned or operated by such person and located within a 1 mile radius from the center point of any such emission source;

$P_i, i = 1, 2, \dots, n$ = percentage of total emissions E emitted from source i divided by 100, and

$H_i, i = 1, 2, \dots, n$ = physical height in feet above grade of stack i.

Appendix C

Method used to Determine Average Actual Stack Height and Effective Height of Effluent Release

Q (Btu/sec) = Heat emission rate as determined by method outlined below.

H (feet) = Plume rise.

H = Physical height in feet, above grade of each stack, except that for purposes of this calculation the value used for such stack height shall not exceed good engineering practice as defined by Section 123 of the Clean Air Act and Regulations promulgated thereunder, unless the owner or operator of the source demonstrates to the Agency that a greater height is necessary to prevent downwash or fumigation conditions.

T (Degrees Rankine) = Exit temperature of stack gases from each source during operating conditions which would cause maximum emissions.

V (feet/sec) = Exit velocity of stack gases from each source under operating conditions which would cause maximum emissions.

D (feet) = Diameter of stack.

P = Percentage of total emissions expressed as decimal equivalents emitted from each source. Example: 21% = 0.21.
NOTE: The sum of $P_1 + P_2 + \dots + P_n = 1$.
The emission values to be used are those which occur during operating conditions which would cause maximum emissions.

X = Average actual stack height.

Y = Effective height of effluent release.

STEP 1: Determine weighted average stack parameters utilizing the following formulae:

$$D = P_1 D_1 + P_2 D_2 + \dots + P_n D_n$$

$$V = P_1 V_1 + P_2 V_2 + \dots + P_n V_n$$

$$T = P_1 T_1 + P_2 T_2 + \dots + P_n T_n$$

$$X = P_1 H_1 + P_2 H_2 + \dots + P_n H_n$$

NOTE: P_1 , D_1 , V_1 , T_1 , and H_1 are the percentage of total emissions, stack diameter, exit velocity of gases, exit temperature of stack gases, and physical stack height, respectively, for the first source; P_2 , D_2 , V_2 , T_2 , and H_2 are the respective values for the second source; similarly, P_n , D_n , V_n , T_n and H_n are the respective values for the nth source, where n is the number of the last source.

STEP 2: Calculate heat emission rate utilizing the following formula and the weighted average stack parameters obtained in Step 1:

$$Q = 7.5402V \left(\frac{T - 515}{T} \right)$$

$$H = \frac{2.58 (Q)^{0.6}}{(X)^{0.11}}$$

$$H = \frac{0.718 (Q)^{0.75}}{(X)^{0.11}}$$

for Q 6000 btu/sec.

for Q 6000 btu/sec.

STEP 4: Calculate the weighted average facility effective height of effluent release utilizing the plume rise obtained in Step 3, the average stack height obtained in Step 1 and the formula given below:

$$Y = X + H$$

STEP 3: Calculate plume rise utilizing the appropriate formula given below and the total heat emission rate obtained in Step 2:

STEP 5: Calculate the total facility hourly emission limitation utilizing the weighted actual stack height obtained in Step 1, the effective stack height given in Step 4, and the following formula:

$$Z = \frac{(X)^{0.11} (Y)^2}{128}$$

SO2 Regulation Report

State : INDIANA
Region : 5
State Regulation Citation : Indiana Administrative Code, Title 326, Article 7

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : All (1)
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 6.0 (2)

Compliance Procedures :: 1e, 2a, 3b, 3c, 4g, 5b
1e. Heat Input Determination => other [Not determined]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate [For >500 MMBtu.]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [30-day rolling average for >1500 MMBtu, calendar month average for others.]
5b. Reporting => state regulation [For sources >1500 MMBtu/hr quarterly reports stating average emission rates are required. For sources >10 and <1500 MMBtu/hr quarterly reports giving average sulfur content, heat content, SO2 emission rate and coal consumption are required. Sources <10 MMBtu/hr must submit reports upon request.]

Footnotes:

- (1) > 25 tons SO2/yr or 10 lb SO2/hr
(2) Unless it can be demonstrated that an exceedance would not affect a violation of the NAAQS or PSD increments. Refer to 326 IAC 7-1-8 through 7-1-19 for specific facility emission limits in the counties of: Lake, Marion, Vigo, Wayne, Laporte, Jefferson, Sullivan, Vermillion, Floyd, Morgan, and Gibson.

SO2 Regulation Report

State : INDIANA
Region : 5
State Regulation Citation : Indiana Administrative Code, Title 326, Article 7

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1e, 2a, 3a, 4a, 5a
1e. Heat Input Determination => other [Not determined]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : INDIANA
Region : 5
State Regulation Citation : Indiana Administrative Code, Title 326, Article 7

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1e, 2a, 3a, 4a, 5a
1e. Heat Input Determination => other [Not determined]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

SO2 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Steam or Electric Generating Facility.
Facility Size (MMBtu/hr) : Less than or equal to 9,000 (1)
Fuel Type : liquid

Emissions Limits:

(% S) : 1.5
(ppm SO2) : 630
(lb SO2/MMBtu) : 1.67

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [As approved by Commission.]
3a. Monitoring Requirements => continuous SO2 monitoring [For sources >250 MMBtu/hr and with SO2 control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required stating emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:

(1) Calculated on the basis of 18,000 Btu/lb.

S02 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Steam or Electric Generating Facility
Facility Size (MMBtu/hr) : Greater than 9,000 {1}
Fuel Type : liquid

Emissions Limits:

(% S) : 1.0
(ppm SO2) : 420
(lb SO2/MMBtu) : 1.11

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b

- 1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [As approved by Commission.]
3a. Monitoring Requirements => continuous SO2 monitoring [For sources >250 MMBtu/hr and with SO2 control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required stating emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:

{1} Calculated on the basis of 18,000 Btu/lb.

S02 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4

Applicable Area : Statewide
Applicable Time Frame : Global 11/11/11
Facility Type : Steam or Electric Generating Facility
Facility Size (MMBtu/hr) : Less than or equal to 9,000 {1}
Fuel Type : solid

Emissions Limits:
(% S) : 1.5
(ppm SO2) : 890
(lb SO2/MMBtu) : 2.50

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [As approved by Commission.]
3a. Monitoring Requirements => continuous SO2 monitoring [If > 250 MMBtu/hr and has SO2 equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required giving emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:
{1} Calculated on the basis of 12,000 Btu/lb.

SO2 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Steam or Electric Generating Facility
Facility Size (MMBtu/hr) : Greater than 9,000 (1)
Fuel Type : solid

Emissions Limits:
(% S) : 1.0
(ppm SO2) : 590
(lb SO2/MMBtu) : 1.67

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2c. Test Methods => other testing [As approved by Commission.]
3a. Monitoring Requirements => continuous SO2 monitoring [For sources >250 MMBtu/hr and with SO2 control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required stating emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:
(1) Calculated on the basis of 12,000 Btu/lb.

S02 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4, R336.1402

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel Burning Equipment other than Power Plants
Facility Size (MMBtu/hr) : Greater than 9,000 (1)
Fuel Type : Oil

Emissions Limits:
(lb S02/MMBtu) : Less than or equal to 1.7

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2c. Test Methods => other testing [As approved by Commission.]
3a. Monitoring Requirements => continuous S02 monitoring [For sources greater than 250 MMBtu/hr and with S02 control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required stating emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:
(1) Calculated on the basis of 18,000 Btu/lb.

S02 Regulation Report

State : MICHIGAN
Region : 5
State Regulation Citation : Michigan Air Pollution Laws, Chapter 336, Part 4, R336.1402

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel Burning Sources other than Power Plants
Facility Size (MMBtu/hr) : Greater than 9,000 {1}
Fuel Type : Coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.4

Compliance Procedures :: 1c, 2a, 2c, 3a, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2c. Test Methods => other testing [As approved by the Commission.]
3a. Monitoring Requirements => continuous SO2 monitoring [For sources greater than 250 MMBtu/hr and with SO2 control equipment.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required stating emission averages for each period during which the standard is exceeded and giving information on periods during which the monitoring equipment is inoperative.]

Footnotes:
{1} Calculated on the basis of 12,000 Btu/lb.

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except Minneapolis-St. Paul AQCR
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for indirect heating equipment, and >250 for direct plus indirect heating equipment at a particular location. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except Minneapolis-St. Paul AQCR
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250 for the indirect and for the indirect plus the direct heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except for Minneapolis-St. Paul AQRC and the City of Duluth
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=250 for indirect, and >250 for indirect plus direct heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance can be achieved by derating heat input and corresponding steam output capacity.
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S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except for Minneapolis-St. Paul AQRC and the City of Duluth
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect, and for direct plus indirect heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO₂/MMBtu) : 0.8 (2)

Compliance Procedures :: 1a, 1c, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO₂ monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance can be achieved by derating heat input and corresponding steam output capacity.

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except Minneapolis-St. Paul AQCR
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for the indirect heating equipment, and >250 for the direct plus the indirect heating equipment at a particular location. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except Minneapolis-St. Paul AQCR
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250 for the indirect, and for the direct plus the indirect heating equipment. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except for Minneapolis-St. Paul AQRC and the City of Duluth
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=250 for indirect, and >250 for indirect plus direct heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance can be achieved by derating heat input and corresponding steam output capacity.
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S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide except for Minneapolis-St. Paul AQRC and the City of Duluth
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect, and for direct plus indirect heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb S02/MMBtu) : 1.2 (2)

Compliance Procedures :: 1a, 1c, 2a, 3a, 4a, 5a
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous S02 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance can be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for the indirect heating equipment, and <=250 for the direct heating equipment. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for the indirect heating equipment, and >250 for the direct plus the indirect heating equipment at a particular location. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.6 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect, and for direct plus indirect heating equipment. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.6 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=100 for indirect, and >250 for direct heating equipment. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.6 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >100 but <=250 for indirect, and >250 for direct heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.6 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=250 for indirect, and <=250 for direct heating equipment. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- {2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect heating equipment and direct plus indirect heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(1b SO2/MMBtu) : 0.8 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for the indirect heating equipment, and <=250 for the direct heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [For derating continuous monitoring of boiler steam flow is required.]
4b. Averaging Time => 1 hour [For derating.]
5b. Reporting => state regulation [Yearly reports are required for derating.]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for the indirect heating equipment, and >250 for the direct and indirect heating equipment at the particular location. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [For derating continuous monitoring of boiler steam flow is required.]
4b. Averaging Time => 1 hour [For derating.]
5b. Reporting => state regulation [Yearly reports are required for derating.]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250 for the indirect, and for the indirect plus the direct heating equipment (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4b, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [For derating continuous monitoring of boiler steam flow is required.]
4b. Averaging Time => 1 hour [For derating.]
5b. Reporting => state regulation [Yearly reports are required for derating.]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=100 for the indirect and >250 for the direct heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >100 but <=250 for the indirect heating equipment, and >250 for the direct heating equipment. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- {2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250 for both indirect and direct heating equipment. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
{2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Minneapolis-St. Paul Air Quality Control Region
Applicable Time Frame : After 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >250 for the indirect, and for the direct plus the indirect heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=100 for indirect, and >250 for direct heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 2.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
-

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >100 but <=250 for indirect, and >250 for direct heating equipment. (1)
Fuel Type : Liquid

Emissions Limits:
(1b SO2/MMBtu) : 2.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
-

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect, and for direct plus indirect heating equipment. {1}
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.8 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- {2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
-

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=100 for indirect, and >250 for direct heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
(2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >100 but <=250 for indirect, and >250 for direct heating equipment. {1}
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 4.0 {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- {2} For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
-

SO2 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : City of Duluth
Applicable Time Frame : After 01/01/80
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250 for indirect, and for direct plus indirect heating equipment. (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2 (2)

Compliance Procedures :: 1a, 1c, 2a, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Not determined]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Not determined]

Footnotes:

- (1) Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- (2) For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
-

S02 Regulation Report

State : MINNESOTA
Region : 5
State Regulation Citation : Minnesota Pollution Control Agency APC-4 and APC-32

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : All {1}
Fuel Type : Combination

Emissions Limits:
(lb SO2/MMBtu) : See equation {2}

Compliance Procedures :: 1a, 1c, 2a, 3e, 4b, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [For derating continuous monitoring of boiler steam flow is required.]
4b. Averaging Time => 1 hour [For derating]
5e. Reporting => other [Yearly reports are required for derating]

Footnotes:

- {1} Indirect heating equipment: a furnace, boiler, or other unit of combustion equipment where the products of combustion do not have direct contact with the heated medium. Direct heating equipment: a furnace, kiln, dryer, or other combustion equipment where the products of combustion have direct contact with the heated material.
- {2} Use equation: $W = [y(a) + z(b)] / (x + y + z)$, where W = the maximum emissions of SO2 (lb SO2/MMBtu), x = % total heat input from gaseous fuels, y = % total heat input from liquid fuels, z = % total heat input from solid fuels, a = allowable SO2 standard for liquid fuels, and b = allowable SO2 standard for solid fuels. For indirect heating equipment compliance may be achieved by derating heat input and corresponding steam output capacity.
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SO2 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Cuyahoga, Lake, Stark, Summit, and Trumbull Counties
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >1000
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : See equation (1)

Compliance Procedures :: 1c, 2a or 2b4, 3a or 3c, 4a or 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired fuel sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=100 MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [30 day]
5e. Reporting => other [Specified by Director]

Footnotes:

(1) $AER = 20P^{0.67}$, where AER = allowable emission rate (lb SO2/hr) and P = process weight rate (tons/hr)

S02 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Cuyahoga, Lake, Stark, Summit, and Trumbull Counties
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=1000
Fuel Type : Solid

Emissions Limits:
(lb S02/MMBtu) : See equation {1}

Compliance Procedures :: 1c, 2a or 2b4, 3a or 3c, 4a or 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous S02 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired fuel sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=100 MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [30 day]
5e. Reporting => other [Specified by Director]

Footnotes:

{1} $ER = [(1 \times 10^6) \times S \times 1.9]/H$, where ER = emission rate (lb S02/hr), S = fraction of sulfur in fuel, and H = heat content of fuel.

SO2 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : All counties except Cuyahoga, Lake, Stark, Summit, and Trumbull
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=1000
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : See equation {1}

Compliance Procedures :: 1c, 2a or 2b4, 3a or 3c, 4a or 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired fuel sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=100 MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [30 day]
5e. Reporting => other [Specified by Director]

Footnotes:

{1} $ER = [(1 \times 10^6) \times S \times 1.9]/H$, where ER = emission rate (lb SO2/hr), S = fraction of sulfur in fuel, and H = heat content of fuel.

S02 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : All counties except Cuyahoga, Lake, Stark, Summit, and Trumbull
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >1000
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : See equation (1)

Compliance Procedures :: 1c, 2a or 2b4, 3a or 3c, 4a or 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired fuel sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=100 MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [30 day]
5e. Reporting => other [Specified by Director]

Footnotes:

(1) $AER = 30P^{0.67}$, where AER = allowable emission rate (lb SO2/hr) and P = process weight (tons/hr)

SO2 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 13

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1e, 2a, 3a, 4a, 5a
1e. Heat Input Determination => other [Not determined]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

SO2 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : <=10
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : See equation (1)

Compliance Procedures :: 1c, 2a, 2b4, 3a or 3c, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]]
4g. Averaging Time => other [30 day]
5e. Reporting => other [as specified by Director]

Footnotes:

(1) $ER = [(1 \times 10^6) \times D \times S \times 1.974]/H$, where ER = emission rate (lb SO2/hr), D = density of liquid fuel (lb/gal), S = fraction of sulfur in fuel, and H = heat content of fuel.

S02 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >10
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.6

Compliance Procedures :: 1d, 2a, 2b4, 3a or 3c, 4g, 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [30 day]
5e. Reporting => other [As specified by Director]

S02 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : >250
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1e, 2a, 3a, 4a, 5a
1e. Heat Input Determination => other [Not determined]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

S02 Regulation Report

State : OHIO
Region : 5
State Regulation Citation : Ohio Administrative Code, Title 3745, Chapter 18

Applicable Area : Statewide
Applicable Time Frame : Before 08/17/71
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : All
Fuel Type : Gaseous

Emissions Limits:
(lb SO2/MMBtu) : See equation (1)

Compliance Procedures :: 1c, 2a or 2b4, 3a or 3c, 4a or 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b4. Test Methods => fuel testing: other [Appropriate ASTM method]
3a. Monitoring Requirements => continuous SO2 monitoring [Or stack gas sampling]
3c. Monitoring Requirements => sulfur content of fuel [coal monitoring requirements: >1000 MMBtu: daily, as-fired fuel sampling, weighted arithmetic average of preceding 30 days; >100 MMBtu and <=1000 MMBtu: monthly samples, as-fired or as-received; >10 MMBtu and <=100 MMBtu: monthly samples or monthly average fuel analysis based on fuel supplier analysis.]
4a. Averaging Time => specified in 40 CFR Part 60
4g. Averaging Time => other [30 day]
5e. Reporting => other [Specified by Director]

Footnotes:

(1) $ER = [(1 \times 10^6) \times D \times S \times 1.998] / H$, where ER = emission rate (lb SO2/hr), D = density of gaseous fuel (lb/ft3), and S = fraction of sulfur in fuel, and H = heat content of fuel.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : Area I (1)
Applicable Time Frame : Global
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <=250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.11

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere and Brown County; Area VI = City of Peshigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : Area II (1)
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Emission point <160 feet above ground
Fuel Type : Liquid

Emissions Limits:
(% S) : 0.22

Compliance Procedures :: 1e, 2c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not determined]
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : Area II {1}
Applicable Time Frame : Before 01/01/80
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : Emission point >=160 feet above ground
Fuel Type : Liquid

Emissions Limits:
(% S) : 1.0

Compliance Procedures :: 1e, 2c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not determined]
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area III (1)
Applicable Time Frame : Before 11/01/79
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >25
Fuel Type : Distillate or combination

Emissions Limits:
(% S) : 0.5

Compliance Procedures :: 1a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area III (1)
Applicable Time Frame : Before 11/01/79
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >25
Fuel Type : Residual or combination

Emissions Limits:
(% S) : 1.1

Compliance Procedures :: 1a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area III (1)
Applicable Time Frame : Before 11/01/79
Facility Type : Steam generating boiler
Facility Size (MMBtu/hr) : >25 but <100
Fuel Type : Solid and combinations with solid

Emissions Limits:
(lb SO₂/MMBtu) : 7.0

Compliance Procedures :: 1a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area III (1)
Applicable Time Frame : Before 11/01/79
Facility Type : All steam generating boilers other than electrical utility boilers
Facility Size (MMBtu/hr) : >=100
Fuel Type : Solid and combinations with solid

Emissions Limits:
(lb SO2/MMBtu) : 2.5 (2)

Compliance Procedures :: 1a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

- (1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.
- (2) Emission limit applies to boilers with emission point heights less than 180 feet above ground. For boilers with emission point heights between 180 and 200 feet above ground, determine emission limit using the following equation: $x = 10[(0.0089)(\text{emission point height}) - 1.18]$, where $x = \text{lb SO}_2/\text{MMBtu}$. For boilers with emission point heights above 220 feet the emission limit is 5.8 lb SO2/MMBtu.
-

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area III {1}
Applicable Time Frame : Before 11/01/79
Facility Type : Electrical utility boiler
Facility Size (MMBtu/hr) : >=100
Fuel Type : Solid and combinations with solid

Emissions Limits:
(lb SO2/MMBtu) : 4.25

Compliance Procedures :: 1a, 2c, 3e, 4g, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area IV (1)
Applicable Time Frame : Before 12/01/83
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.28

Compliance Procedures :: 1c, 2c, 3e, 4d, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4d. Averaging Time => 24 hours
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 & 440

Applicable Area : Area IV (1)
Applicable Time Frame : Before 12/01/83
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Residual

Emissions Limits:
(lb SO2/MMBtu) : 1.6

Compliance Procedures :: 1c, 2c, 3e, 4d, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4d. Averaging Time => 24 hours
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 & 440

Applicable Area : Area IV (1)
Applicable Time Frame : Before 12/01/83
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : All except residual and solid (includes distillates and gaseous)

Emissions Limits:
(lb S02/MMBtu) : 0.5

Compliance Procedures :: 1c, 2c, 3e, 4d, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4d. Averaging Time => 24 hours
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area IV (1)
Applicable Time Frame : Before 12/01/83
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Combination

Emissions Limits:
(lb SO2/MMBtu) : See equation (2)

Compliance Procedures :: 1c, 2c, 3e, 4d, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4d. Averaging Time => 24 hours
5e. Reporting => other [As specified by Department]

Footnotes:

- (1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.
- (2) $Q = [x(3.28) + y(1.60) + z(0.5)] / (x + y + z)$, where Q = lb SO2/MMBtu, x = % total heat input from solid fuel, y = % total heat input from residual fuel, and z = % total heat input from all other fuels.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area VI (1)
Applicable Time Frame : Before 10/01/84
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Emission point >149 feet above ground
Fuel Type : Liquid and natural gas

Emissions Limits:
(lb SO2/MMBtu) : 0.52

Compliance Procedures :: 1e, 2c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area VI {1}
Applicable Time Frame : Before 10/01/84
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : All
Fuel Type : All except liquid and natural gas with emission points >149 feet above ground

Emissions Limits:
(lb SO2/MMBtu) : 0.72 lb/hr

Compliance Procedures :: 1e, 2c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brook and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area V (1)
Applicable Time Frame : Before 02/01/84
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Emission point height < 377 feet above ground
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 0.5

Compliance Procedures :: 1c, 2c, 3a, 3c, 3e, 4g, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [For solid fuel type sources >500 MMBtu/hr, continuous monitoring is required; for solid fuel type sources <500 MMBtu/hr, daily fuel samples are required; for liquid fuel type sources, daily fuel samples are required; and for other fuel type sources, annual stack testing is required]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [Quarterly reports are required which include excess emission reports, amount of fuel used, fuel sampling and analysis reports.]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 418

Applicable Area : Area V (1)
Applicable Time Frame : Before 02/01/84
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : Emission point height >= 377 feet above ground
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 5.58

Compliance Procedures :: 1c, 2c, 3a, 3c, 3e, 4g, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [For solid fuel type sources >500 MMBtu/hr, continuous monitoring is required; for solid fuel type sources <500 MMBtu/hr, daily fuel samples are required; for liquid fuel type sources, daily fuel samples are required; and for other fuel type sources, annual stack testing is required]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [Quarterly reports are required which include excess emission reports, amount of fuel used, fuel sampling and analysis reports.]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : AREA VII (1)
Applicable Time Frame : Before 02/01/85
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <250
Fuel Type : Residual fuel oil

Emissions Limits:
(lb SO2/MMBtu) : 3.0

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

(1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : Area VII {1}
Applicable Time Frame : Before 02/01/85
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >=250
Fuel Type : Residual fuel oil

Emissions Limits:
(lb SO2/MMBtu) : 1.5 {2}

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

- (1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere and Brown County; Area VI = City of Peshigo and Marinette County; and Area VII = all areas not already covered.
- (2) Alternative: any size not to exceed 3.0 lb SO2/MMBtu (30-day rolling average), by permission of Department.
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SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : Area VII {1}
Applicable Time Frame : Before 02/01/85
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : <250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 5.5

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [As specified by Department]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417

Applicable Area : AREA VII (1)
Applicable Time Frame : Before 02/01/85
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : >=250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.2 (2)

Compliance Procedures :: 1c, 2c, 3e, 4g, 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2c. Test Methods => other testing [As specified by Department]
3e. Monitoring Requirements => other [As specified by Department]
4g. Averaging Time => other [30-day rolling average for alternative emission limits]
5e. Reporting => other [As specified by Department]

Footnotes:

- (1) Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.
(2) Alternative: any size not to exceed 5.5 lb SO2/MMBtu (calculated on a 30-day rolling average), by permission of Department.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 & 440

Applicable Area : Statewide {1}
Applicable Time Frame : After 08/17/71
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1c, 2a, 3a, 3c, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel [If no flue-gas desulfurization]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required, including information on excess emissions.]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brokaw and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 440

Applicable Area : Statewide
Applicable Time Frame : After 09/18/78
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250 (1)
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.2 and 10% of the potential combustion concentration (2)

Compliance Procedures :: 1a, 2a, 2b1, 3a or 3c, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [ASTM 19]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [30-day rolling average.]
5b. Reporting => state regulation [For each 24-hour period reports are required which are to include the 30-day emission rates, % reduction of potential combustion concentration, and identification of "F" factor.]

Footnotes:

- (1) All facilities that use 100% anthracite must meet emission limitations of 1.2 lb SO2/MMBtu.
(2) Emission limits are 30% of the potential combustion concentration when emissions are <0.6 lb SO2/MMBtu

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 and 440

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1c, 2a, 3a, 3c, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel [If no flue-gas desulfurization.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required, including reports on
excess emissions.]

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 and 440

Applicable Area : Statewide
Applicable Time Frame : After 02/01/85
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : <250
Fuel Type : Residual fuel oil

Emissions Limits:
(lb SO2/MMBtu) : 1.5

Compliance Procedures :: 1b, 2a, 3a, 3c, 4a, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel [If no flue-gas desulfurization]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required, including reports on
excess emissions.]

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 440

Applicable Area : Statewide
Applicable Time Frame : After 09/18/78
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Liquid and gaseous

Emissions Limits:
(lb SO2/MMBtu) : 0.8 and 10% of the potential combustion concentration (1)

Compliance Procedures :: 1a, 2a, 2b1, 3a, 3c, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [ASTM 19]
3a. Monitoring Requirements => continuous SO2 monitoring [Not for natural gas]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [30-day rolling average]
5b. Reporting => state regulation [Quarterly reports are required, including reports on excess emissions.]

Footnotes:

(1) Emission limits are 100% of the potential combustion concentrations when emissions are <0.2 lb SO2/MMBtu.

S02 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 and 440

Applicable Area : Statewide
Applicable Time Frame : After 08/17/71
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Combinations

Emissions Limits:
(lb S02/MMBtu) : See equation (1)

Compliance Procedures :: 1c, 2a, 3a, 3c, 4a, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous S02 monitoring
3c. Monitoring Requirements => sulfur content of fuel [If no flue-gas desulfurization.]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required, including reports on excess emissions.]

Footnotes:

(1) Use equation $PSO_2 = [y(340) + z(520)]/(y + z)$; where PSO_2 = prorated standard for S02, y = % total heat input from liquid fuels, and z = % total heat input from solid fuels.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 440

Applicable Area : Statewide
Applicable Time Frame : After 09/18/78
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : Combinations

Emissions Limits:
(lb SO2/MMBtu) : See equations (1)

Compliance Procedures :: 1a, 2a, 2b1, 3a, 3c, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [ASTM 19]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [30-day rolling average]
5b. Reporting => state regulation [For each 24-hour period reports are required which are to include 30-day average emission rates, percent reduction of potential combustion concentrations and identification of the "F" factor.]

Footnotes:

(1) If emissions are >0.6 lb SO2/MMBtu, use equations: $ESO_2 = (340x + 520y)/100$ and $PSO_2 = 10\%$. If emissions are <=0.6 lb SO2/MMBtu, use equations: $ESO_2 = (340x + 520y)/100$ and $PSO_2 = (90x + 70y)/100$. ESO_2 = prorated SO2 emission limit, PSO_2 = % potential SO2 emission allowed, x = % total heat input from liquid or gas, and y = total heat input from solid.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : NR 417 and 440

Applicable Area : Statewide except Southeast Wisconsin Intrastate AQCR {1}
Applicable Time Frame : After 02/01/85
Facility Type : Fuel burning installations
Facility Size (MMBtu/hr) : <250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 3.2

Compliance Procedures :: 1b, 2a, 3a, 3c, 4a, 5b
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3a. Monitoring Requirements => continuous SO2 monitoring
3c. Monitoring Requirements => sulfur content of fuel [If no flue-gas desulfurization]
4a. Averaging Time => specified in 40 CFR Part 60
5b. Reporting => state regulation [Quarterly reports are required, including reports on excess emissions.]

Footnotes:

{1} Area I = Southeast Wisconsin Intrastate AQCR; Area II = Village of Brookfield and Marathon County; Area III = City of Madison and Dane County; Area IV = City of Milwaukee and Milwaukee County; Area V = Cities of Green Bay and De Pere, and Brown County; Area VI = City of Peshtigo and Marinette County; and Area VII = all areas not already covered.

SO2 Regulation Report

State : WISCONSIN
Region : 5
State Regulation Citation : Wisconsin Environmental Protection Law, Chapters 144 & 440

Applicable Area : State owned large source {1}
Applicable Time Frame : Global
Facility Type : Fuel burning installation
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(lb SO2/MMBtu) : 1.50

Compliance Procedures :: 1e, 2c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [Specified by Department]
3e. Monitoring Requirements => other [Specified by Department]
4g. Averaging Time => other [Not determined]
5e. Reporting => other [Specified by Department]

Footnotes:

(1) A source is considered large if SO2 emissions averaged at least 1000 tons annually in the most recent 5-year period.

SO2 Regulation Report

State : ARKANSAS
Region : 6
State Regulation Citation : Arkansas Air Pollution Control Code, Section 8, and Arkansas Plan for Air Pollution Control, Section 7.

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(lb SO2/MMBtu) : attain the National Ambient Air Quality Standards {1}

Compliance Procedures :: 1e, 2a, 3a or 3b, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [May be required.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [As prescribed by the Director.]
4g. Averaging Time => other [As specified by the Director.]
5b. Reporting => state regulation [Records of the nature and amount of emissions and any other information deemed necessary to determine source compliance shall be submitted at the Directors request within forty five days after the end of the reporting period. Reporting periods are June 1 through November 30, and December 1 through May 31, or other periods specified by the Director. All information will be on forms or in a format prescribed by the Director.]

Footnotes:

{1} A source must not cause a SO2 NAAQS exceedance; emission limits are specified in each operating permit.

SO2 Regulation Report

State : LOUISIANA
Region : 6
State Regulation Citation : Louisiana Air Pollution Control Regulations, Chapter 15

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : all but sulfuric acid plants and sulfur recovery plants
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : Less than or equal to 2000 (by volume at standard conditions) (1)

Compliance Procedures :: 1e, 2a, 2c, 2d, 3e, 4g, 5b, 5d
1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2c. Test Methods => other testing [See Section 1509, Table 4] (2)
2d. Test Methods => other testing [Equivalent methods approved by the Department]
3e. Monitoring Requirements => other [As specified by the Department]
4g. Averaging Time => other [As specified by the Department]
5b. Reporting => state regulation [Section 1507(B)]
5d. Reporting => specified by the Director

Footnotes:

- (1) Small units may be exempted from this limit by administrative authority.
(2) References for Methods of Measurement: 1) Seidman, Analytical Chemistry Volume 30, page 1680 (1958) "Determination of Sulfur Oxides in Stack Gases." 2) Shell Development Company method for the Determination of Sulfur Dioxide and Sulfur Trioxide PHS 999 AP-13 Appendix B, pages 85-87 "Atmospheric Emissions Sulfuric Acid Manufacturing Processes." 3) Reich Test for Sulfur Dioxide." Atmospheric Emissions from Sulfuric Acid Manufacturing Process" PHS 999 AP-13 Appendix B, pages 76-80. 4) The Modified Monsanto Company Method "Atmospheric Emissions from Sulfuric Acid Process" PHS 999 AP-13, Appendix B, pages 61-67.

S02 Regulation Report

State : NEW MEXICO
Region : 6
State Regulation Citation : Air Quality Control Regulation 605

Applicable Area : Statewide
Applicable Time Frame : After 01/10/72
Facility Type : fuel burning installation
Facility Size (MMBtu/hr) : See footnote (1)
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.34

Compliance Procedures :: 1e, 1a, 2c, 3e, 4g, 5d
1e. Heat Input Determination => other
1a. Heat Input Determination => unit design rated (MMBtu/hr) [Not specified]
2c. Test Methods => other testing [As specified by the Director]
3e. Monitoring Requirements => other [As specified by the Director]
4g. Averaging Time => other [Not specified]
5d. Reporting => specified by the Director

Footnotes:
(1) Facility size is greater than 1,000,000 MMBtu per year per unit.

SO2 Regulation Report

State : NEW MEXICO
Region : 6
State Regulation Citation : Air Quality Control Regulation 602

Applicable Area : Statewide
Applicable Time Frame : After 12/31/82
Facility Type : station consisting of at least one coal burning installation {1}
Facility Size (MMBtu/hr) : all
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 0.55 (30-day average) [or 13,000 lb/hour (3-hour average)] {2}

Compliance Procedures :: 1d, 2a, 2c, 3a, 3c or 3e, 4c, 4g, 5b
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Section 602(E)]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4, and 6]
2c. Test Methods => other testing [The Department may require the owner/operator to conduct a performance test (not more than once per year) such as specified in 40 CFR Part 60, Appendix B.]
3a. Monitoring Requirements => continuous SO2 monitoring [Both prior to entering the SO2 removal system and at all locations which SO2 emissions are released to the atmosphere]
3c. Monitoring Requirements => sulfur content of fuel [Section 602(E)]
3e. Monitoring Requirements => other [Alternate method approved by the Department]
4c. Averaging Time => 3 hours
4g. Averaging Time => other [30 day]
5b. Reporting => state regulation [Section 602(E)]

Footnotes:

{1} which began commercial operation between 12/31/76 and 12/31/82
{2} If the station demonstrates to the Department that in optimum operation this limit cannot be met, the required limit would be 0.65 lb SO2/MMBtu.

S02 Regulation Report

State : NEW MEXICO
Region : 6
State Regulation Citation : Air Quality Control Regulation 602

Applicable Area : Statewide
Applicable Time Frame : After 01/01/83
Facility Type : station consisting of at least one coal burning installation (1)
Facility Size (MMBtu/hr) : >250
Fuel Type : coal

Emissions Limits:
(lb S02/MMBtu) : 1.2

Compliance Procedures :: 1d, 2a, 2c, 3a, 3c or 3e, 4c, 4g, 5b
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Section 602(E)]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4, and 6]
2c. Test Methods => other testing [The Department may require the owner/operator to conduct a performance test (not more than once per year) such as specified in 40 CFR Part 60, Appendix B.]
3a. Monitoring Requirements => continuous S02 monitoring [Both prior to enetering the S02 removal system and at all locations which S02 emissions are released to the atmosphere]
3c. Monitoring Requirements => sulfur content of fuel [Section 602(E)]
3e. Monitoring Requirements => other [Alternate method approved by the Department]
4c. Averaging Time => 3 hours
4g. Averaging Time => other [30 day]
5b. Reporting => state regulation [Section 602(E)]

Footnotes:
(1) which began commercial operation between 12/31/76 and 12/31/82

SO2 Regulation Report

State : NEW MEXICO
Region : 6
State Regulation Citation : Air Quality Control Regulation 602

Applicable Area : Statewide
Applicable Time Frame : After 01/01/83
Facility Type : coal burning installation (1)
Facility Size (MMBtu/hr) : >250
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 0.34

Compliance Procedures :: 1d, 2a, 2c, 3a, 3c or 3e, 4g, 5b
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Section 602(E)]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and 6]
2c. Test Methods => other testing [The Department may require to owner/operator to conduct a performance test (but not more than once per year) as specified in 40 CFR Part 60, Appendix B.]
3a. Monitoring Requirements => continuous SO2 monitoring [Both prior to entering the SO2 removal system and at all locations which SO2 emissions are released to the atmosphere.]
3c. Monitoring Requirements => sulfur content of fuel [Section 602(E)]
3e. Monitoring Requirements => other [Unless Department has approved an alternate method]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [Section 602(E)]

Footnotes:

(1) which began commercial operation prior to 12/31/76 and after 12/31/82

S02 Regulation Report

State : NEW MEXICO
Region : 6
State Regulation Citation : Air Quality Control Regulation 602

Applicable Area : Statewide
Applicable Time Frame : After 12/31/84
Facility Type : fuel burning installations with two or more units
Facility Size (MMBtu/hr) : >250
Fuel Type : coal

Emissions Limits:
(lb S02/MMBtu) : 17,900 lb/hour (1)

Compliance Procedures :: 1d, 2a, 2c, 3a, 3c or 3e, 4c, 4g, 5b
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Section 602(E)]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4, and 6]
2c. Test Methods => other testing [The Department may require the owner/operator to conduct a performance test (not more than once per year) such as specified in 40 CFR Part 60, Appendix B.]
3a. Monitoring Requirements => continuous S02 monitoring [Both prior to entering the S02 removal system and at all locations which S02 emissions are released to the atmosphere]
3c. Monitoring Requirements => sulfur content of fuel [Section 602(E)]
3e. Monitoring Requirements => other [Alternate method approved by the Department]
4c. Averaging Time => 3 hours
4g. Averaging Time => other [30 day]
5b. Reporting => state regulation [Section 602(E)]

Footnotes:

(1) Emission limit not to be exceeded more than once per year based on a 3-hour average determined on a total station basis. Alternative stack emission limitations may be approved by the Department. Facilities also cannot exceed twenty-eight percent of the total sulfur produced as averaged over a thirty day period on a total station basis.

S02 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : gaseous fuel

Emissions Limits:
(lb S02/MMBtu) : 0.2

Compliance Procedures :: 1e, 2c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As approved by the Commissioner]
3e. Monitoring Requirements => other [If the facility is >250 MMBtu/hour, an instrument for continuously monitoring and recording S02 emissions is required, except where gaseous fuel containing <1% sulfur is the only fuel burned.]
4g. Averaging Time => other [2 hour maximum]
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B): Maintain a file of all measurements required and retain for a year.]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : liquid fuel

Emissions Limits:
(lb SO2/MMBtu) : 0.8 {1}

Compliance Procedures :: 1e, 2a, 2b1 or 2c, 3c or 3e, 4g, 5b, 5e
1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [466.26 (Volume 36, No. 159; August 17, 1971)]
2b1. Test Methods => fuel testing: ASTM [D129 or D1552]
2c. Test Methods => other testing [As approved by the Commissioner]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [If facility is >250 MMBtu/hr, instrument for continuously monitoring and recording SO2 emissions required.]
4g. Averaging Time => other [Maximum 2 hour average]
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B): Maintain a file of all measurements required and retain them for a year.]
5e. Reporting => other

Footnotes:

{1} If different fuels are burned simultaneously, the standard is determined by proration. Formula: $y(.8) + z(1.2)/y + z$; where y is the % of total heat input derived from liquid fuel and z is the % of total heat input derived from solid fuel.

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : solid fuel

Emissions Limits:
(lb SO2/MMBtu) : 1.2 (1)

Compliance Procedures :: 1e, 2a, 2b1 or 2c, 3c or 3e, 4g, 5b, 5e
1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [466.26 (Volume 36, No. 159; August 17, 1971)]
2b1. Test Methods => fuel testing: ASTM [D271]
2c. Test Methods => other testing [As approved by the Commissioner]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [If facility is >250 MMBtu/hr, instrument for continuously monitoring and recording SO2 emissions required.]
4g. Averaging Time => other [Maximum 2 hour average]
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B). Maintain a file of all measurements required and retain them for a year.]
5e. Reporting => other

Footnotes:

(1) If different fuels are burned simultaneously, the standard is determined by proration. Formula: $y(.8) + z(1.2)/y + z$; where y is the % of total heat input derived from liquid fuel and z is the % of total heat input derived from solid fuel.

S02 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : Before 07/01/72
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.52 (1350 ug/m3)

Compliance Procedures :: 1e, 2c, 3a, 3b, 4g, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified in CFR 466.65 (36 FR, No. 159, August 17, 1971)]
3a. Monitoring Requirements => continuous SO2 monitoring
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4g. Averaging Time => other [A 5 minute period of any hour]
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B): Maintain a file of all measurements and retain them for a year.]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : Before 07/01/72
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.46

Compliance Procedures :: 1e, 2c, 3a, 3b, 4b, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified in CFR 466.65 (36 FR, No. 159, August 17, 1971)]
3a. Monitoring Requirements => continuous SO2 monitoring
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B): Maintain a file of all measurements required and retain them for a year.]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : Before 07/01/72
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.25

Compliance Procedures :: 1e, 2c, 3a, 3b, 4c, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified in CFR 466.65 (36 FR, No. 159, August 17, 1971)]
3a. Monitoring Requirements => continuous SO2 monitoring
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4(B): Maintain a file of all measurements required and retain them for a year.]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 3.4

Applicable Area : Statewide
Applicable Time Frame : Before 07/01/72
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.05

Compliance Procedures :: 1e, 2c, 3a, 3b, 4d, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified in CFR 466.65 (36 FR, No. 159, August 17, 1971)]
3a. Monitoring Requirements => continuous SO2 monitoring
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [Regulation 1.5; Regulation 3.4: Maintain a file of all measurements required and retain them for a year.]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 1.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:

(lb SO2/MMBtu) : attain the National Ambient Air Quality Standard {1}

Compliance Procedures :: 1e, 2c, 3b, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [Test procedures as approved by the Commissioner]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [As specified by the Commissioner]
4g. Averaging Time => other [Annual arithmetic average]
5b. Reporting => state regulation [Regulation 5.1]

Footnotes:

{1} A source must not cause a SO2 NAAQS exceedance.

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 1.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.14 (365 ug/m3) primary standard

Compliance Procedures :: 1e, 2c, 3b, 3e, 4d, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [Test procedures approved by the Commissioner]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [As specified by the Commissioner]
4d. Averaging Time => 24 hours [Maximum]
5b. Reporting => state regulation [Regulation 5.1]

SO2 Regulation Report

State : OKLAHOMA
Region : 6
State Regulation Citation : Oklahoma Air Pollution Rules, Regulation 1.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.5 (1300 ug/m3) secondary standard

Compliance Procedures :: 1e, 2c, 3b, 3e, 4c, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [Test procedures approved by the Commissioner]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [As approved by the Commissioner]
4c. Averaging Time => 3 hours [Maximum]
5b. Reporting => state regulation [Regulation 5.1]

S02 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation 11 - Control of Air Pollution From Sulfur Compounds, Section 112.9

Applicable Area : All counties except Galveston, Harris, Jefferson, and Orange (1)
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.4 (net ground level concentration)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [As specified by the Board or the Executive Director.]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director.]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director.]
4g. Averaging Time => other [Thirty minute period.]
5b. Reporting => state regulation [General rules, Sections 101.8, 101.10, and 101.12]

Footnotes:

(1) All new sources except those in El Paso County are exempt if the following conditions are met: 1) Federal NSPS and BACT are met; 2) Neither primary nor secondary SO2 air quality standards are exceeded; 3) sources on an exempt property prior to 01/19/80 remain in compliance.

S02 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation II - Control of Air Pollution From Sulfur Compounds, Section 112.8

Applicable Area : Jefferson and Orange Counties
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(% S) : 0.32 (net ground level concentration)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [As specified by the Board or the Executive Director.]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director.]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director.]
4g. Averaging Time => other [Thirty minute period.]
5b. Reporting => state regulation [General rules, Sections 101.8, 101.10, and 101.12]

S02 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation 11 - Control of Air Pollution From Sulfur Compounds, Section 112.7

Applicable Area : Galveston and Harris Counties
Applicable Time Frame : Global
Facility Type : all
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(% S) : 0.28 (net ground level concentration)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [As specified by the Board or the Executive Director.]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director.]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director.]
4g. Averaging Time => other [Thirty minute period.]
5b. Reporting => state regulation [General Rules, Sections 101.8, 101.10, and 101.12]

SO2 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation II - Control of Air Pollution From Sulfur Compounds, Section 112.6

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel-fired steam generator
Facility Size (MMBtu/hr) : all
Fuel Type : liquid

Emissions Limits:
(ppm SO2) : 440 (1)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified by the Board or Executive Director]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [General Rules, Sections 101.8, 101.10, and 101.12]

Footnotes:

(1) If a source has an effective stack height less than standard effective stack height, the allowable emission concentration must be reduced by multiplying it by the square of the effective stack height divided by the standard effective stack height.

S02 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation II - Control of Air Pollution From Sulfur Compounds, Section 112.5

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel-fired steam generator
Facility Size (MMBtu/hr) : all
Fuel Type : solid fossil

Emissions Limits:
(lb SO2/MMBtu) : 3 (1)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified by the Board or Executive Director]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [General Rules, Sections 101.8, 101.10, and 101.12]

Footnotes:
(1) New proven technology in removing SO2 emissions must be applied when it becomes available.

S02 Regulation Report

State : TEXAS
Region : 6
State Regulation Citation : Texas Regulation II - Control of Air Pollution From Sulfur Compounds, Section 112.5

Applicable Area : Milam County
Applicable Time Frame : After 01/01/82
Facility Type : fuel-fired steam generators built before 01/01/55
Facility Size (MMBtu/hr) : all
Fuel Type : solid fossil

Emissions Limits:
(lb SO2/MMBtu) : 4 (1)

Compliance Procedures :: 1e, 2c or 2d, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [As specified by the Board or Executive Director]
2d. Test Methods => other testing [Alternate sampling method if approved by the Executive Director]
3e. Monitoring Requirements => other [As specified by the Board or the Executive Director]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [General Rules, Sections 101.8, 101.10, and 101.12]

Footnotes:

(1) New proven technology in removing SO2 emissions must be applied when it becomes available.

SO2 Regulation Report

State : IOWA
Region : 7
State Regulation Citation : Title 11, Chapter 23.3(3), Chapter 24, Chapter 25.1(8), and (9)

Applicable Area : Statewide excluding the counties of Black Hawk, Clinton, Des Moines, Dubuque, Jackson, Lee, Linn, Lousia, Muscatine, and Scott.
Applicable Time Frame : Before 09/23/70
Facility Type : Fuel burning units
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 5.0

Compliance Procedures :: 1a, 2a, 2b1, 2c, 3a, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack sampling and associated analytical methods are those specified in the "Compliance Sampling Manual", adopted by the Commission on May 19, 1977.]
2b1. Test Methods => fuel testing: ASTM [D-2015-66]
2c. Test Methods => other testing [Emission tests and continuous monitoring performance tests may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring
4g. Averaging Time => other [Replicated maximum two hour average.]
5b. Reporting => state regulation [24.1; An oral and written report of excess emissions made to the regional office shall include the identification of the equipment and point of emissions; the time, duration, and estimated quantity of emissions; the cause of and the remedy for the excess emissions; and the steps taken to limit the excess emissions in the interim period.]

SO2 Regulation Report

State : IOWA
Region : 7
State Regulation Citation : Title II, Chapter 23.3(3), Chapter 24, Chapter 25.1(8) and (9)

Applicable Area : Counties of Black Hawk, Clinton, Des Moines, Dubuque, Jackson, Lee, Linn, Lousia, Muscatine, and Scott
Applicable Time Frame : Before 09/23/70
Facility Type : Fuel burning units
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.0

Compliance Procedures :: 1a, 2a, 2b1, 2c, 3a, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack sampling and associated analytical methods are those specified in the "Compliance Sampling Manual", adopted by the Commission on May 19, 1977.]
2b1. Test Methods => fuel testing: ASTM [D-2015-66]
2c. Test Methods => other testing [Emission tests and continuous monitoring performance tests may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring
4g. Averaging Time => other [Replicated maximum two hour average.]
5b. Reporting => state regulation [24.1; An oral and written report of excess emissions made to the regional office shall include the identification of the equipment and point of emissions; the time, duration, and estimated quantity of emissions; the cause of and the remedy for the excess emissions; and the steps taken to limit the excess emissions in the interim period.]

S02 Regulation Report

State : IOWA
Region : 7
State Regulation Citation : Title II, Chapter 23.3(3), Chapter 24, Chapter 25.1(8) and (9)

Applicable Area : Statewide
Applicable Time Frame : Before 09/23/70
Facility Type : Fuel burning units
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.5

Compliance Procedures :: 1a, 2a, 2b1, 2c, 3a, 4g, 5a, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack testing and associated analytical methods are those specified in the "Compliance Sampling Manual", adopted by the Commission on May 19, 1977.]
2b1. Test Methods => fuel testing: ASTM [D-2015-66]
2c. Test Methods => other testing [Emission tests and continuous monitoring performance tests may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring
4g. Averaging Time => other [Replicated maximum two hour average.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [24.1; An oral and written report of excess emissions made to the regional office shall include the identification of the equipment and point of emissions; the time, duration, and estimated quantity of emissions; the cause of and the remedy for the excess emissions; and the steps taken to limit the excess emissions in the interim period.]

SO2 Regulation Report

State : IOWA
Region : 7
State Regulation Citation : Title II, Chapter 23.1(2), Chapter 24, Chapter 25.1(8) and (9)

Applicable Area : Statewide
Applicable Time Frame : After 09/23/70
Facility Type : Fuel burning units
Facility Size (MMBtu/hr) : Less than or equal to 250.0
Fuel Type : Solid fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 6.0

Compliance Procedures :: 1a, 2a, 2b1, 2c, 3a, 4g, 5a, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Stack testing and associated analytical methods are those specified in the "Compliance Sampling Manual", adopted by the Commission on May 19, 1977.]
2b1. Test Methods => fuel testing: ASTM [D-2015-66]
2c. Test Methods => other testing [Emission tests and continuous monitoring performance tests may be required.]
3a. Monitoring Requirements => continuous SO2 monitoring
4g. Averaging Time => other [Replicated maximum two hour average.]
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [24.1; An oral and written report of excess emissions made to the regional office shall include the identification of the equipment and point of emissions; the time, duration and estimated quantity of emissions; the cause of and the remedy for the excess emissions; and the steps taken to limit the excess emissions in the interim period.]

SO2 Regulation Report

State : KANSAS
Region : 7
State Regulation Citation : Title 28, Article 19, Part 4, Sections 30 and 31

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Indirect heating equipment excluding exempted sources {1}
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : All fuel, excluding refuse

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.5

Compliance Procedures :: 1e, 2a, 2b1 or 2b2 or 2c, 3a, 4c, 5a, 5b, 5e
1e. Heat Input Determination => other [The equipment manufacturer's or designer's guaranteed maximum input whichever is greater, of the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 20]
2b1. Test Methods => fuel testing: ASTM [D-271-64 or D-2015-66 (coal or coke)]
2b2. Test Methods => fuel testing: ASTM [D-240-64 (oil)]
2c. Test Methods => other testing [or other recognized method as approved by the department]
3a. Monitoring Requirements => continuous SO2 monitoring [Excluding fossil-fuel fired steam generators whose annual capacity factor is limited by permit conditions to be less than thirty percent.]
4c. Averaging Time => 3 hours
5a. Reporting => specified in 40 CFR Part 60
5b. Reporting => state regulation [28-19-19(k); A quarterly report of excess emissions shall include the total time the unit operated; the date, time, and magnitude of emissions; data reductions; the nature and cause of excess emissions; corrective action taken and preventive measures adopted; the date, time, nature and cause of CEMs breakdown; repairs or corrections to the CEMs (may require proof); performance audit results; and if no excess emissions have occurred or the CEMs have not required corrective actions, a statement verifying that fact.]
5e. Reporting => other [A quality assurance plan will be submitted thirty days prior to the commencement of CEMs performance tests.]

Footnotes:

{1} Exempted sources are indirect heating equipment in electric generating plants that were existing on January 1, 1972 in areas that have been identified as meeting the national primary ambient air quality standard for SO2, and are capable of being fueled by coal.

SO2 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 3, Section .150 and Chapter 6

Applicable Area : Statewide excluding the city of St. Louis, and the counties of St. Charles, St. Louis, Jefferson, Franklin, Clay, Cass, Buchanan, Ray, Jackson, Platte, and Greene.
Applicable Time Frame : After 02/24/71
Facility Type : Indirect Heating Sources
Facility Size (MMBtu/hr) : Greater than or equal to 0.35
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 8.0 {1}

Compliance Procedures :: 1d, 1e, 2a, 2b1 or 2c, 3e, 4c, 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
1e. Heat Input Determination => other [Determined by multiplying the heating value of the fuel by the amount of fuel burned during the source test period.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2015-66 (solid) or D-240-64 (liquid)]
2c. Test Methods => other testing [Alternative sampling methods may be used with Director approval.]
3e. Monitoring Requirements => other [As specified by the Director.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Not specified.]

Footnotes:

{1} The following sources shall limit their average sulfur emissions to the amount indicated: Associated Electric Cooperative New Madrid, less than 10.0 lbs SO2/MMBtu; Associated Electric Cooperative Thomas Hill Units 1 and 2, and University of Missouri Columbia, less than 8.0 lbs SO2/MMBtu; Central Electric Power Cooperative Chalmers Plant, less than 6.7 lbs SO2/MMBtu; Empire District Electric Company Asbury Station, less than 12.0 lbs SO2/MMBtu; Kansas City Power and Light Company Montrose Station, less than 12.9 lbs SO2/MMBtu

SO2 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 5, Section .110

Applicable Area : St. Louis Metropolitan Area {1}
Applicable Time Frame : After 03/24/70
Facility Type : Indirect heating sources
Facility Size (MMBtu/hr) : Less than 2000
Fuel Type : Fuel oil and coal

Emissions Limits:
(% S) : Less than or equal to 4.0 {2}

Compliance Procedures :: 1c or 1e, 2b1 or 2c, 3a or 3e, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Sum of the manufacturer's or designer's guaranteed maximum heat input rate of each indirect heating source.]
2b1. Test Methods => fuel testing: ASTM [Heat content by D-240-64 (fuel oil) or D-2015-66 (coal) and percent sulfur by D-129-64 (fuel oil) or D-3177-75 (coal).]
2c. Test Methods => other testing [As specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [As specified by the Director.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [10 CSR 10-5.110; A quarterly report of excess emissions.]

Footnotes:

- {1} The compliance date for sources located in Franklin County is Jan. 31, 1973.
{2} Limitation allowed in the months of April, May, June, July, Aug., and Sept., only if it can be shown that the source can not attain the 2.3 lbs. SO2 per million BTU emission limit.

S02 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 5, Section .110

Applicable Area : St. Louis Metropolitan Area (1)
Applicable Time Frame : After 03/24/70
Facility Type : Indirect heating sources
Facility Size (MMBtu/hr) : Less than 2000
Fuel Type : Fuel oil and coal

Emissions Limits:
(% S) : Less than or equal to 2.0 (2)

Compliance Procedures :: 1c, 1e, 2b1 or 2c, 3a or 3e, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [Sum of the manufacturer's or designer's guaranteed maximum heat input rate of each indirect heating source.]
2b1. Test Methods => fuel testing: ASTM [Heat content by D-240-64 (fuel oil) or D-2015-66 (coal) and percent sulfur by D-129-64 (fuel oil) or D-3177-75 (coal).]
2c. Test Methods => other testing [As specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [As specified by the Director.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [10 CSR 10-5.110; A quarterly report of excess emissions.]

Footnotes:

- (1) The compliance date for sources located in Franklin County is Jan. 31, 1973.
(2) Limitation allowed in the months of Oct., Nov., Dec., Jan., Feb., and March, only if it can be shown that the source can not attain the 2.3 lbs SO2 per million BTU emission limit.

S02 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 5, Section .110

Applicable Area : St. Louis Metropolitan Area
Applicable Time Frame : After 03/24/70
Facility Type : Indirect heating sources
Facility Size (MMBtu/hr) : Greater than or equal to 2000
Fuel Type : Fuel oil and coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.3 (1)

Compliance Procedures :: 1c, 1e, 2b1 or 2c, 3a or 3e, 4c, 5b
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1e. Heat Input Determination => other [The sum of the manufacturer's or designer's guaranteed maximum heat input rate of each indirect heating sources.]
2b1. Test Methods => fuel testing: ASTM [Heat content by D-240-64 (fuel oil) or D-2015-66 (coal) and percent sulfur by D-129-64 (fuel oil) or D-3177-75 (coal).]
2c. Test Methods => other testing [As specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [As specified by the Director.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [10 CSR 10-5.110; A quarterly report of excess emissions.]

Footnotes:

(1) The following sources shall limit their average sulfur emissions to the amount indicated: Union Electric Labadie Plant and Portage des Sioux shall not emit more than 4.8 lbs SO2/MMBtu (daily average, 00:01 to 24:00).

SO2 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 2, Section .200

Applicable Area : Kansas City Metropolitan Area {1}
Applicable Time Frame : After 09/24/67
Facility Type : Indirect heating sources
Facility Size (MMBtu/hr) : Greater than or equal to 0.35
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 8.0 {2}

Compliance Procedures :: 1d, 2a, 2b1 or 2c, 3e, 4c, 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
2b1. Test Methods => fuel testing: ASTM [D-2015-66 (solid) or D-240-64 (liquid)]
2c. Test Methods => other testing [Alternative sampling methods may be used with director approval.]
3e. Monitoring Requirements => other [As specified by the Director.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Not specified.]

Footnotes:

- {1} The compliance date for sources located in Buchanan County is Sept. 1, 1970.
{2} The following sources shall limit their average sulfur emissions to the amount indicated: Independence Power and Light, less than 6.3 lbs SO2/MMBtu; Kansas City Power and Light Grand Avenue Plant and the Missouri Public Service Plant, less than 9.0 lbs SO2/MMBtu; Kansas City Power and Light Hawthorn Plant, less than 6.1 lbs SO2/MMBtu; St. Joseph Light and Power Lake Road Plant, less than 8.6 lbs/MMBtu.

S02 Regulation Report

State : MISSOURI
Region : 7
State Regulation Citation : Title 10, Division 10, Chapter 4, Section .190, and Chapter 6

Applicable Area : Springfield - Greene County
Applicable Time Frame : After 09/24/71
Facility Type : Indirect heating sources
Facility Size (MMBtu/hr) : Greater than 0.35
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 8.0 (1)

Compliance Procedures :: 1d, 1e, 2b1 or 2c, 3e, 4c, 5e
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr)
1e. Heat Input Determination => other [Determined by multiplying the heating value of the fuel by the amount of fuel burned during the source test period.]
2b1. Test Methods => fuel testing: ASTM [Heating value by D-2015-66 (solid) or D-240-64 (liquid)]
2c. Test Methods => other testing [Alternate test methods may be used with Director approval.]
3e. Monitoring Requirements => other [Not specified.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Not specified.]

Footnotes:

(1) The following sources shall limit their average sulfur emissions to the amount indicated: City Utilities James River Plant, less than 9.2 lbs SO2/MMBtu; City Utilities Southwest Plant, less than 1.2 lbs SO2/MMBtu.

SO2 Regulation Report

State : NEBRASKA
Region : 7
State Regulation Citation : Title 129, Chapters 4, 13, and 21

Applicable Area : Statewide
Applicable Time Frame : Before 06/17/75
Facility Type : Fuel burning devices used in indirect heating equipment
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 2.5

Compliance Procedures :: 1a or 1b, 1e, 2a, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
1e. Heat Input Determination => other [Rated or operating input capacity.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6]
3e. Monitoring Requirements => other [Continuous emission monitoring may be required by the Director.]
4g. Averaging Time => other [Two hour average.]
5b. Reporting => state regulation [21.006; Records and reports regarding measured source emissions will be submitted in manner and on a schedule to be determined by the Director.]

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : combustion turbines
Facility Size (MMBtu/hr) : <300
Fuel Type : gaseous

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : combustion turbines
Facility Size (MMBtu/hr) : >=300
Fuel Type : gaseous

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and 8; 40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : combustion turbine
Facility Size (MMBtu/hr) : <300
Fuel Type : gaseous

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : combustion turbine
Facility Size (MMBtu/hr) : >=300
Fuel Type : gaseous

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : combustion turbine
Facility Size (MMBtu/hr) : >=250
Fuel Type : natural gas

Emissions Limits:
(lb SO2/MMBtu) : 0.35

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <300
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 1.5

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >=300
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : oil burning installations including combustion turbines
Facility Size (MMBtu/hr) : <250
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : oil burning installations excluding combustion turbines
Facility Size (MMBtu/hr) : >=250
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.3

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <300
Fuel Type : coal {1}

Emissions Limits:
(lb SO2/MMBtu) : 1.8

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60]
2c. Test Methods => other testing [Alternative method approved by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

Footnotes:
{1} These standards are also applicable to the use of coal-based by-product fuels.

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, A

Applicable Area : Statewide
Applicable Time Frame : Before 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : =>300
Fuel Type : coal {1}

Emissions Limits:
(lb S02/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

Footnotes:

{1} These standards are also applicable to the use of coal-based by-product fuels.

S02 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : <250
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >=250
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 0.4

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr).
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8,
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

SO2 Regulation Report

State : COLORADO
Region : 8
State Regulation Citation : Colorado Air Pollution Regulation 1, Section VI, B

Applicable Area : Statewide
Applicable Time Frame : After 09/11/77
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all sources converted from other fuels to coal

Emissions Limits:
(lb SO2/MMBtu) : 1.2

Compliance Procedures :: 1a, 2a or 2c, 3a, 4c, 5e
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods 1-4 and Method 8;
40 CFR 60.275, Appendix A, Part 60.]
2c. Test Methods => other testing [Alternative method approved by the Division.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for sources greater than 250 MMBtu/hr.]
4c. Averaging Time => 3 hours
5e. Reporting => other [Quarterly reports.]

S02 Regulation Report

State : MONTANA
Region : 8
State Regulation Citation : Montana Air Quality Regulations 16.8.820

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.50

Compliance Procedures :: 1b, 2c, 3b, 4b, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2c. Test Methods => other testing [Pararosaniline, 40 CFR Part 50 (Appendix A) or by an approved equivalent method]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4b. Averaging Time => 1 hour [Not to be exceeded more than 18 times in any 12 consecutive months]
5d. Reporting => specified by the Director

S02 Regulation Report

State : MONTANA
Region : 8
State Regulation Citation : Montana Air Quality Regulations 16.8.820

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm SO2) : 0.10

Compliance Procedures :: 1b, 2c, 3b, 4d, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2c. Test Methods => other testing [Pararosaniline, 40 CFR Part 50 (Appendix A) or by an approved equivalent method]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4d. Averaging Time => 24 hours [Not to be exceeded more than once per year]
5d. Reporting => specified by the Director

S02 Regulation Report

State : MONTANA
Region : 8
State Regulation Citation : Montana Air Quality Regulations 16.8.820

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(ppm S02) : 0.02

Compliance Procedures :: 1b, 2c, 3b, 4g, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2c. Test Methods => other testing [Pararosaniline, 40 CFR Part 50 (Appendix A) or by an
approved equivalent method]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
4g. Averaging Time => other [Annual, not to be exceeded]
5d. Reporting => specified by the Director

SO2 Regulation Report

State : MONTANA
Region : 8
State Regulation Citation : Montana Air Quality Regulations 16.8.1411

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : Greater than 1
Fuel Type : liquid or solid

Emissions Limits:
(lb S/MMBtu) : 1.0 {1}

Compliance Procedures :: 1b, 2c, 3c, 3e, 4g, 5b, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2c. Test Methods => other testing [Methods approved by the Department]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [Upon application to the Director, an SO2 control process may be used if the resulting emissions of sulfur do not exceed 1.0 lbs per hour.]
4g. Averaging Time => other [Specified by the Director]
5b. Reporting => state regulation [16.8.704]
5d. Reporting => specified by the Director

Footnotes:

{1} A higher sulfur containing fuel may be used if, when mixed with one or more lower sulfur containing fuels, the equivalent sulfur content is not in excess of 1.0 lb SO2/MMBtu when fired.

SO2 Regulation Report

State : MONTANA
Region : 8
State Regulation Citation : Montana Air Quality Regulations 16.8.1411

Applicable Area : Statewide
Applicable Time Frame : After 07/01/72
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : Greater than 1
Fuel Type : gaseous

Emissions Limits:
(ppm SO2) : See footnote. (1)

Compliance Procedures :: 1b, 2c, 3c, 4g, 5d
1b. Heat Input Determination => unit actual or operating (MMBtu/hr)
2c. Test Methods => other testing [Methods approved by the Department]
3c. Monitoring Requirements => sulfur content of fuel
4g. Averaging Time => other [Specified by the Director]
5d. Reporting => specified by the Director

Footnotes:

(1) 50 grains H2S per 100 cubic feet, calculated at standard conditions. This does not apply to 1) the burning of sulfur, hydrogen sulfide, acid sludge, or other sulfur compounds in the manufacturing of sulfur compounds; 2) the incineration of waste gases if the gross heating value of such gases is less than 300 Btu/cubic feet and the fuel used to incinerate such waste gases does not contain sulfur or sulfur compounds in excess of 50 grains per 100 cubic feet; or 3) the use of fuels where the gaseous products of combustion are used as raw materials for other processes.

SO2 Regulation Report

State : NORTH DAKOTA
Region : 8
State Regulation Citation : North Dakota NSPS, Chapter 33-15-06-1

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all fossil

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.0

Compliance Procedures :: 1e, 2a or 2c, 3c, 4a, 5a
1e. Heat Input Determination => other [Manufacturer's or designer's guaranteed maximum heat input rate.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6.]
2c. Test Methods => other testing [Other methods as approved by the Department.]
3c. Monitoring Requirements => sulfur content of fuel
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

SO2 Regulation Report

State : SOUTH DAKOTA
Region : 8
State Regulation Citation : South Dakota Air Pollution Rules, Chapter 74:26:07

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : all

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 3.0

Compliance Procedures :: 1a, 2a or 2c, 3e, 4a, 5d
1a. Heat Input Determination => unit design rated (MMBtu/hr) [or unit manufacturer rates, whichever heat input value is greater]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2c. Test Methods => other testing [Specified by the Director]
3e. Monitoring Requirements => other [Not specified]
4a. Averaging Time => specified in 40 CFR Part 60
5d. Reporting => specified by the Director

SO2 Regulation Report

State : UTAH
Region : 8
State Regulation Citation : Utah Air Laws, Part IV, Section 4.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : oil

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 0.85

Compliance Procedures :: 1e, 2a, 2b1, 3c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b1. Test Methods => fuel testing: ASTM [Mandatory testing, using the applicable ASTM method, performed at least once every five years or as requested by the Executive Secretary.]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [If an exemption is granted, monitoring devices used shall be approved by the Executive Secretary.]
4g. Averaging Time => other [Specified by the Executive Secretary.]
5e. Reporting => other [Specified by the Executive Secretary.]

S02 Regulation Report

State : UTAH
Region : 8
State Regulation Citation : Utah Air Laws, Part IV, Section 4.2

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : all
Fuel Type : coal

Emissions Limits:
(lb S/MMBtu) : Less than or equal to 1.0

Compliance Procedures :: 1e, 2a, 2b1, 3c, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b1. Test Methods => fuel testing: ASTM [Mandatory testing, using the applicable ASTM method,
performed at least once every five years or as requested the Executive
Secretary]
3c. Monitoring Requirements => sulfur content of fuel
3e. Monitoring Requirements => other [If an exemption is granted, monitoring devices used shall be
approved by the Executive Secretary.]
4g. Averaging Time => other [Specified by the Executive Secretary.]
5e. Reporting => other [Specified by the Director.]

SO2 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : Before 01/01/74
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >250 and <=2500
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 1.2 {1}

Compliance Procedures :: 1c or 1d, 2a or 2c, 3e, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the two hour fixed averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the two hour fixed averaging method.]
3e. Monitoring Requirements => other [Specified by the Director.]
4g. Averaging Time => other [Two hour or equivalent.]
5b. Reporting => state regulation [22(j); Reporting requirement for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

{1} A combination of a thirty day rolling average of 1.2 lb SO2/MMBtu and a three hour fixed average of 1.2 lb SO2/MMBtu may be used as an averaging method. Written notice to the Administrator is required. The three hour fixed average maximum is not to be exceeded more than once per year. Compliance with this option must be demonstrated by CEM.

S02 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : Before 01/01/74
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >2,500 and <=5,000
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.5 (1)

Compliance Procedures :: 1c or 1d, 2a or 2c, 3e, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the two hour fixed averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the two hour fixed averaging method.]
3e. Monitoring Requirements => other [Specified by the Director.]
4g. Averaging Time => other [Two hour or equivalent.]
5b. Reporting => state regulation [22(j); Reporting requirements for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

(1) A combination of a thirty day rolling average of 0.5 lb SO2/MMBtu and a three hour fixed average of 1.12 lb SO2/MMBtu may be used as an averaging method. Written notice to the Administrator is required. The three hour fixed average maximum is not to be exceeded more than once per year. Compliance with this option must be demonstrated by CEM.

SO2 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : Before 01/01/74
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >5,000
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.3 (1)

Compliance Procedures :: 1c or 1d, 2a or 2c, 3e, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the two hour fixed averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the two hour fixed averaging method.]
3e. Monitoring Requirements => other [Specified by the Director.]
4g. Averaging Time => other [Two hour or equivalent.]
5b. Reporting => state regulation [22(j); Reporting requirements for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

(1) A combination of a thirty day rolling average of 0.3 lb SO2/MMBtu and a three hour fixed average of 0.65 lb SO2/MMBtu may be used as an averaging method. Written notice to the Administrator is required. The three hour fixed average maximum is not to be exceeded more than once per year. Compliance with this option must be demonstrated by CEM.

S02 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : After 01/01/85
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >=250
Fuel Type : coal

Emissions Limits:
(lb S02/MMBtu) : 0.2 (30-day rolling average) and 0.45 (3-hour fixed average)

Compliance Procedures :: 1c or 1d, 2a or 2c, 3a, 4c or 4g, 5b or 5e
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the three hour averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the three hour averaging method.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for the thirty day rolling average method.]
4c. Averaging Time => 3 hours [Fixed average.] (1)
4g. Averaging Time => other [Thirty day rolling average.]
5b. Reporting => state regulation [22(j); Reporting requirements for the CEM option.]
5e. Reporting => other

Footnotes:

(1) The maximum 3-hour S02 emission rate is not to be exceeded more than once per calendar year.

SO2 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : After 01/01/85
Facility Type : fuel burning installations
Facility Size (MMBtu/hr) : >250
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.8 (30-day rolling average and 3-hour fixed average).

Compliance Procedures :: 1c or 1d, 2a or 2c, 3a, 4c, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the three hour averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the three hour averaging method.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for the thirty day rolling average method.]
4c. Averaging Time => 3 hours [Fixed average.] (1)
4g. Averaging Time => other [Thirty day rolling average.]
5b. Reporting => state regulation [22(j); Reporting requirements for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

(1) The maximum three hour SO2 emission rate is not to be exceeded more than once per calendar year.

SO2 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : After 01/01/74
Facility Type : fuel burning installations {1}
Facility Size (MMBtu/hr) : >250
Fuel Type : oil

Emissions Limits:
(lb SO2/MMBtu) : 0.8

Compliance Procedures :: 1c or 1d, 2a or 2c, 3a, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the two hour fixed averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the two hour fixed averaging method.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for the thirty day rolling average method.]
4g. Averaging Time => other [Two hour fixed average.]
5b. Reporting => state regulation [22(j); Reporting requirements for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

- (1) This regulation applies to units existing prior to 01/01/85.
(2) A combination of a thirty day rolling average of 0.8 lb SO2/MMBtu and a three hour fixed average of 0.8 lb SO2/MMBtu may be used as an averaging method. Written notice to the Administrator is required. The three hour fixed average maximum is not to be exceeded more than once per year. Compliance with this option must be demonstrated by CEM.

S02 Regulation Report

State : WYOMING
Region : 8
State Regulation Citation : Wyoming Air Quality Standards and Regulations, Chapter 1, Section 4

Applicable Area : Statewide
Applicable Time Frame : After 01/01/74
Facility Type : fuel burning installations (1)
Facility Size (MMBtu/hr) : >250
Fuel Type : coal

Emissions Limits:
(lb SO2/MMBtu) : 0.2

Compliance Procedures :: 1c or 1d, 2a or 2c, 3a, 4g, 5b or 5d
1c. Heat Input Determination => total plant design rated (MMBtu/hr)
1d. Heat Input Determination => total plant actual or operating (MMBtu/hr) [Whichever heat input value is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Method 6 is required when using the two hour fixed averaging method.]
2c. Test Methods => other testing [An equivalent method may be approved when using the two hour fixed averaging method.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for the thirty day rolling average method.]
4g. Averaging Time => other [Two hour fixed average.]
5b. Reporting => state regulation [22(j); Reporting requirement for the CEM option.]
5d. Reporting => specified by the Director

Footnotes:

- {1} This regulation applies to units existing prior to 01/01/85.
{2} A combination of a thirty day rolling average of 0.2 lb SO2/MMBtu and a three hour fixed average of 0.45 lb SO2/MMBtu may be used. Written notice to the Administrator is required. The three hour fixed average maximum is not to be exceeded more than once per year. Compliance with this option must be demonstrated by CEM.

SO2 Regulation Report

State : ARIZONA
Region : 9
State Regulation Citation : R18-2-503

Applicable Area : Statewide
Applicable Time Frame : Before 05/14/79
Facility Type : Fossil-fuel fired steam generators and general fuel burning devices
Facility Size (MMBtu/hr) : Greater than or equal to 249 (73 MW)
Fuel Type : Low sulfur oil and solid fuel

Emissions Limits:

(% S) : Less than 0.90, by weight.
(lb SO2/MMBtu) : Less than or equal to 1.0

Compliance Procedures :: 1e, 2b1, 2c, 3a, 3e, 4c, 5b

- 1e. Heat Input Determination => other [The total heat input of all fuel burning units operated at the nominal rated capacity of each unit.]
- 2b1. Test Methods => fuel testing: ASTM [D-3176-74 and D-2015]
- 2c. Test Methods => other testing [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
- 3a. Monitoring Requirements => continuous SO2 monitoring
- 3e. Monitoring Requirements => other [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
- 4c. Averaging Time => 3 hours
- 5b. Reporting => state regulation [R18-2-314; Report of excess emissions identifying the source and magnitude of emissions, the time, duration, nature, cause, and remedy for the excess emissions.]

SO2 Regulation Report

State : ARIZONA
Region : 9
State Regulation Citation : R18-2-503

Applicable Area : Statewide
Applicable Time Frame : Before 05/14/79
Facility Type : Fossil-fuel fired steam generators and general fuel burning devices
Facility Size (MMBtu/hr) : Greater than or equal to 249 (73 MW)
Fuel Type : High sulfur oil {1}

Emissions Limits:

(% S) : Greater than or equal to 0.90, by weight
(lb SO2/MMBtu) : Less than or equal to 2.2

Compliance Procedures :: 1e, 2b1, 2c, 3a, 3e, 4c, 5b

- 1e. Heat Input Determination => other [The total heat input of all fuel burning units operated at the nominal rated capacity of each unit.]
- 2b1. Test Methods => fuel testing: ASTM [D-3176-74 and D-2015]
- 2c. Test Methods => other testing [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
- 3a. Monitoring Requirements => continuous SO2 monitoring
- 3e. Monitoring Requirements => other [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
- 4c. Averaging Time => 3 hours
- 5b. Reporting => state regulation [R18-2-314; Report of excess emissions identifying the source and magnitude of emissions, the time, duration, nature, cause, and remedy for the excess emissions. R18-2-503.2.f; Monthly reports submitted to the Director detailing the efforts to obtain low sulfur fuel.]
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Footnotes:

{1} Director approval required to use high sulfur oil.

SO2 Regulation Report

State : ARIZONA
Region : 9
State Regulation Citation : R18-2-503, R18-2-309 through R18-2-314

Applicable Area : Statewide
Applicable Time Frame : After 05/14/79
Facility Type : Fossil-fuel fired steam generators and general fuel burning devices
Facility Size (MMBtu/hr) : Greater than or equal to 249 (73 MW)
Fuel Type : Low sulfur oil and solid fuel {1}

Emissions Limits:
(% S) : Less than 0.90, by weight
(lb SO2/MMBtu) : Less than or equal to 0.80

Compliance Procedures :: 1e, 2b1, 2c, 3a, 3e, 4c, 5b
1e. Heat Input Determination => other [The total heat input of all fuel burning units operated at the nominal rated capacity of each unit.]
2b1. Test Methods => fuel testing: ASTM [D-3176-74 and D-2015]
2c. Test Methods => other testing [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring
3e. Monitoring Requirements => other [Specified in the "Arizona Testing Manual for Air Pollution Emissions", or equivalent methods approved by the Director.]
4c. Averaging Time => 3 hours
5b. Reporting => state regulation [R18-2-314; Report of excess emissions identifying the source and magnitude of emissions, the time, duration, nature, cause and remedy for the excess emissions.]

Footnotes:
{1} Director approval required to use high sulfur oil.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : R-1-520, R-1-522, and R-9-1-304

Applicable Area : Bay Area Air Quality Management District
Applicable Time Frame : Global
Facility Type : Not specified
Facility Size (MMBtu/hr) : Not specified
Fuel Type : Liquid fossil fuel

Emissions Limits:
(% S) : Less than or equal to 0.5, by weight

Compliance Procedures :: 1e, 2b4, 2c, 3a, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified]
2b4. Test Methods => fuel testing: other [Sulfur content of fuels by Method 10, in the "Manual of Procedures, Volume III", amended 3/17/82.]
2c. Test Methods => other testing [Sampling and analysis of gas streams as specified in the "Manual of Procedures, Volume III", amended 3/17/82.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
3e. Monitoring Requirements => other [Emission monitoring requirements as specified in the "Manual of Procedures, Volume V", amended 3/17/82.]
4g. Averaging Time => other [Specified in the "Manual of Procedures, Volume IV", amended 3/17/82.]
5e. Reporting => other [District regulation 1, section 500.]

SO2 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : R-9-1-304

Applicable Area : Bay Area Air Quality Management District
Applicable Time Frame : Global
Facility Type : Not specified
Facility Size (MMBtu/hr) : Not specified
Fuel Type : Solid fossil fuel

Emissions Limits:
(ppm SO2) : Less than or equal to 300

Compliance Procedures :: 1e, 2c, 3a, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [Sampling and analysis of gas streams as specified in the
"Manual of Procedures, Volume III", amended 3/17/82.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators
with a heat input of 250 MMBtu/hr or more and a use factor of at least
thirty percent and utilizing flue gas desulfurization.]
3e. Monitoring Requirements => other [Emission monitoring requirements as specified in the "Manual of
Procedures, Volume V", amended 3/17/82.]
4g. Averaging Time => other [Specified in the "Manual of Procedures, Volume IV", amended
3/17/82.]
5e. Reporting => other [District regulation 1, section 500]

SO2 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 431.2

Applicable Area : South Coast Air Quality Management District (1)
Applicable Time Frame : Global
Facility Type : All sources excluding electric power plant steam generators
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuels excluding diesel fuel number 1-D, or 2-D

Emissions Limits:
(% S) : Less than or equal to 0.5, by weight (2)

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or methods determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Not specified in the District regulations.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the date, time, magnitude, nature, cause, and corrective action taken.]

Footnotes:

- (1) The following counties have rules that preceded the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernardino.
(2) Fuel with a higher sulfur content may be used if it can be demonstrated that the sulfur emissions would be no greater than when using a fuel which complies with this standard.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 431.2

Applicable Area : South Coast Air Quality Management District (1)
Applicable Time Frame : Global
Facility Type : Not specified
Facility Size (MMBtu/hr) : All
Fuel Type : Diesel fuel number 1-D, or 2-D

Emissions Limits:
(% S) : Less than or equal to 0.05, by weight (2)

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or methods determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Not specified in the District regulations.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the date, time, magnitude, nature, cause, and corrective action taken.]

Footnotes:

- (1) The following counties have rules that preceded the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernardino.
(2) Fuel with a higher sulfur content may be used if it can be demonstrated that the sulfur emissions would be no greater than when using a fuel which complies with this standard.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 431.3

Applicable Area : South Coast Air Quality Management District (1)
Applicable Time Frame : Global
Facility Type : Not specified
Facility Size (MMBtu/hr) : All
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.56

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or method determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Not specified in the District regulations.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the date, time, magnitude, nature, cause, and corrective action taken.]

Footnotes:

(1) The following counties have rules that precede the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernardino.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 431.1

Applicable Area : South Coast Air Quality Management District (1)
Applicable Time Frame : Global
Facility Type : Not specifeid
Facility Size (MMBtu/hr) : All
Fuel Type : Gaseous fuels excluding landfill gas and sewage digester gas

Emissions Limits:
(ppm SO2) : Less than or equal to 80, calculated as H2S, or (2)

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or methods determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Not specified in the District regulations.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the time, date, magnitude, nature, cause, and corrective action taken.]

Footnotes:

- (1) The following counties have rules that precede the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernadino.
(2) Sources emitting less than thirty lb/day, calculated as H2S, are exempt from the rule.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 431.2

Applicable Area : South Coast Air Quality Management District (1)
Applicable Time Frame : Global
Facility Type : Electric power plant steam generators
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid fossil fuels excluding diesel fuel number 1-D, or 2-D

Emissions Limits:
(% S) : Less than or equal to 0.25, by weight (2)

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or methods determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous S02 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Not specified in the District regulations.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the date, time, magnitude, nature, cause, and corrective action taken. District Rule 431.2(b)(3); A monthly report to the executive officer of the daily fuel consumption at each plant, and the average sulfur content of the fuel consumed. If noncomplying fuel is burned, the report must include the efforts made to obtain complying fuel.]

Footnotes:

- (1) The following counties have rules that preceded the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernardino.
(2) Fuel with a higher sulfur content may be used if it can be demonstrated that the sulfur emissions would be no greater than when using a fuel which complies with this standard.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : District rules 104, 218, and 407

Applicable Area : South Coast Air Basin and Southeast Desert Air Basin (within the South Coast AQMD) (1)
Applicable Time Frame : Global
Facility Type : Not specified
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(ppm SO2) : Less than or equal to 500, by volume

Compliance Procedures :: 1e, 2c, 3a, 4g, 5e
1e. Heat Input Determination => other [Not specified in the District regulations.]
2c. Test Methods => other testing [Source tests according to the methods adopted by the District, or methods determined by the Air Pollution Control Officer to be equivalent.]
3a. Monitoring Requirements => continuous SO2 monitoring [Required for fossil fuel fired steam generators with a heat input of 250 MMBtu/hr or more and a use factor of at least thirty percent and utilizing flue gas desulfurization.]
4g. Averaging Time => other [Fifteen consecutive minutes.]
5e. Reporting => other [District Rule 104; Test data and analytical results are calculated and reported at standard conditions. District Rule 218(e); A monthly summary of emission data, and a report of excess emissions or monitoring system failure within 96 hours after the occurrence shall include the time, date, magnitude, nature, cause, and corrective action taken.]

Footnotes:

(1) The following counties have rules that precede the SCAQMD rules: Los Angeles, Orange, Riverside, and San Bernadino.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : IV-54, IV-60, IV-64, VI-100, VI-102, and VI-103

Applicable Area : Ventura County Air Pollution Control District
Applicable Time Frame : Global
Facility Type : Combustion Operations, Fuel Burning Equipment, Nonmobile Equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Solid and liquid fuels

Emissions Limits:

(% S) : Less than or equal to 0.5, by weight. (1)
(ppm SO2) : Less than or equal to 300, by volume, at the point of discharge. (Less than or equal to 10 ppm H2S, by volume.) (2)
(lb SO2/MMBtu) : Less than or equal to 200 lb SOx/hr, calculated as SO2.

Compliance Procedures :: 1e, 2a or 2c, 3a, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods are available from the District. SO2 at the point of discharge - collection by wet impinger, conversion to sulfuric acid and titrating. SO2 at ground level - collection by wet impinger, Schiff base formation, and colorimetric determination.]
2c. Test Methods => other testing [Other methods may be used, with Director approval, if they provide equivalent results.]
3a. Monitoring Requirements => continuous SO2 monitoring [May be required for sources that emit greater than or equal to 5 lb/hr or 40 lb/day SO2.]
3e. Monitoring Requirements => other [Any source tests and analysis deemed necessary to evaluate the status of compliance and or permit application.]
4g. Averaging Time => other [Not specified]
5b. Reporting => state regulation [Rule 1038; An emission violation report made to the District is required within 48 hours after the occurrence. A summary report of the continuous emissions monitoring data is required upon request from the Air Pollution Control Officer.]

Footnotes:

- (1) Fuel with a higher sulfur content may be used if the emissions are reduced to a level less than the emissions which would occur from the uncontrolled combustion of 0.5% sulfur fuel.
(2) Average ground level concentrations can not exceed the following limits: 0.5 ppm SO2 (vol) for any one hour average, 0.04 ppm SO2 (vol) for any twenty four hour average, 0.06 ppm H2S for any three minute average, and 0.03 ppm H2S for any one hour average. All sulfur present in gaseous compounds containing oxygen shall be calculated as SO2.

S02 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : IV-54, IV-60, IV-64, VI-100, VI-102, and VI-103

Applicable Area : Ventura County Air Pollution Control District
Applicable Time Frame : Global
Facility Type : Combustion Operations, Fuel Burning Equipment, Nonmobile Equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Gaseous fuels excluding natural gas.

Emissions Limits:

(ppm SO2) : Less than or equal to 300, by volume, at the point of discharge. (Less than or equal to 10 ppm H2S, by volume and less than or equal to 50 gr/100 ft3, calculated as H2S at standard conditions.) {1}
(lb SO2/MMBtu) : Less than or equal to 200 lb SOx/hr, calculated as SO2.

Compliance Procedures :: 1e, 2a or 2c, 3a, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified]

2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods are available from the District. SO2 at the point of discharge - collection by wet impinger, conversion to sulfuric acid and titrating. SO2 at ground level - collection by wet impinger, Schiff base formation, and colorimetric determination.]

2c. Test Methods => other testing [Other methods may be used, with Director approval, if they provide equivalent results.]

3a. Monitoring Requirements => continuous SO2 monitoring [May be required for sources that emit greater than or equal to 5 lb/hr or 40 lb/day SO2.]

3e. Monitoring Requirements => other [Any source tests and analysis deemed necessary to evaluate the status of compliance and or permit application.]

4g. Averaging Time => other [Not specified]

5b. Reporting => state regulation [Rule 103B; An emission violation report made to the District is required within 48 hours after the occurrence. A summary report of the continuous emissions monitoring data is required upon request from the Air Pollution Control Officer.]

Footnotes:

{1} Average ground level concentrations can not exceed the following limits: 0.5 ppm SO2 (vol) for any one hour average, 0.04 ppm SO2 (vol) for any twenty four hour average, 0.06 ppm H2S for any three minute average, and 0.03 ppm H2S for any one hour average. All sulfur present in gaseous compounds containing oxygen shall be calculated as SO2.

SO2 Regulation Report

State : CALIFORNIA
Region : 9
State Regulation Citation : IV-54, IV-60, IV-64, VI-100, VI-102, and VI-103

Applicable Area : Ventura County Air Pollution Control District
Applicable Time Frame : Global
Facility Type : Combustion Operations, Fuel Burning Equipment, Nonmobile Equipment
Facility Size (MMBtu/hr) : All
Fuel Type : Natural gas

Emissions Limits:

(ppm SO2) : Less than or equal to 300, by volume, at the point of discharge. (Less than or equal to 10 ppm H2S, by volume, and less than or equal to 15 gr/100 ft3, calculated as H2S at standard conditions.) {1}
(lb SO2/MMBtu) : Less than or equal to 200 lb SOx/hr, calculated as SO2.

Compliance Procedures :: 1e, 2a or 2c, 3a, 3e, 4g, 5b

1e. Heat Input Determination => other [Not specified]

2a. Test Methods => source testing (as specified in 40 CFR Part 60) [Methods are available from the District. SO2 at the point of discharge - collection by wet impinger, conversion to sulfuric acid and titrating. SO2 at ground level - collection by wet impinger, Schiff base formation, and colorimetric determination.]
2c. Test Methods => other testing [Other methods may be used, with Director approval, if they provide equivalent results.]

3a. Monitoring Requirements => continuous SO2 monitoring [May be required for sources that emit greater than or equal to 5 lb/hr or 40 lb/day SO2.]

3e. Monitoring Requirements => other [Any source tests and analysis deemed necessary to evaluate the status of compliance and or permit application.]

4g. Averaging Time => other [Not specified]

5b. Reporting => state regulation [Rule 103B; An emission violation report made to the District is required within 48 hours after the occurrence. A summary report of the continuous emissions monitoring data is required upon request from the Air Pollution Control Officer.]

Footnotes:

{1} Average ground level concentrations can not exceed the following limits: 0.5 ppm SO2 (vol) for any one hour average, 0.04 ppm SO2 (vol) for any twenty four hour average, 0.06 ppm H2S for any three minute average, and 0.03 ppm H2S for any one hour average. All sulfur present in gaseous compounds containing oxygen shall be calculated as SO2.

SO2 Regulation Report

State : HAWAII
Region : 9
State Regulation Citation : 11-60-9 and 11-60-15

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fuel combustion facilities
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuels

Emissions Limits:
(% S) : Less than 2.0 (1)

Compliance Procedures :: 1e, 2c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All sampling and testing shall be made in accordance with EPA reference methods, or by procedures approved by the Director.]
3e. Monitoring Requirements => other [As specified by the Director.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [11-60-15; A summary of excess emissions identifying the nature, amount, time, and duration of source emissions; pertinent process emissions; fuels used; and any other information deemed necessary by the Director.]

Footnotes:
(1) A variance may be allowed with Director approval.

S02 Regulation Report

State : HAWAII
Region : 9
State Regulation Citation : 11-60-9 and 11-60-15

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : Fossil fuel fired power and steam generating facilities
Facility Size (MMBtu/hr) : Greater than or equal to 250
Fuel Type : All fossil fuels

Emissions Limits:
(% S) : Less than or equal to 0.5 (1)

Compliance Procedures :: 1e, 2c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [All sampling and testing shall be made in accordance with EPA reference methods, or by procedures approved by the Director.]
3e. Monitoring Requirements => other [As specified by the Director.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [11-60-15; A summary of excess emissions identifying the nature, amount, time, and duration of source emissions; pertinent process emissions; fuels used; and any other information deemed necessary by the Director.]

Footnotes:
(1) A variance may be allowed with Director approval.

S02 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, Sections .682, and .742 through .748

Applicable Area : Statewide
Applicable Time Frame : Before 11/07/75
Facility Type : Indirect heat transfer units
Facility Size (MMBtu/hr) : Less than 250 (63 MMkg-cal)
Fuel Type : All fossil fuels

Emissions Limits:
(lb SO₂/MMBtu) : Calculated by equation. (1)

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5d
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO₂ monitoring [40 CFR part 51 (Appendix P)]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [445.692: A quarterly report of excess emission identifying the date and time of emissions; the nature, cause and remedy of all facility and instrument malfunctions, etc.]
5d. Reporting => specified by the Director

Footnotes:

(1) $Y = 0.7X$ ($Y = 1.26X$), where X = the operating heat input in millions of BTUs (kg-cal) per hour, and Y = the allowable rate of emission of sulfur in pounds (kg) per hour. Some sources have specific limitations.

S02 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, Sections .682, and .742 through .748

Applicable Area : Statewide
Applicable Time Frame : Before 11/07/75
Facility Type : Indirect heat transfer units
Facility Size (MMBtu/hr) : Greater than or equal to 250 (63 MMkg-cal)
Fuel Type : Liquid fossil fuel

Emissions Limits:
(lb SO₂/MMBtu) : Calculated by equation. {1}

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5c
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO₂ monitoring [40 CFR part 51 (Appendix P)]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [445.692; A quarterly report of excess emissions identifying the date and time of emissions; the nature, cause and remedy of all facility and instrument malfunctions, etc.]
5c. Reporting => specified in 40 CFR Part 51 [(Appendix P)]

Footnotes:

{1} $Y = 0.4X$ ($Y = 0.7X$), where X = the operating heat input in millions of BTUs (kg-cal) per hour, and Y = the allowable rate of emission of sulfur in pounds (kg) per hour. Some sources have specific limitations.

SO2 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, Sections .682, and .742 through .748

Applicable Area : Statewide
Applicable Time Frame : Before 11/07/75
Facility Type : Indirect heat transfer units
Facility Size (MMBtu/hr) : Greater than or equal to 250 (63 MMkg-cal)
Fuel Type : Solid fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Calculated by equation. {1}

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5c
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51 (Appendix P)]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [445.692; A quarterly report of excess emissions identifying the date and time of emissions; the nature, cause and remedy of all facility and instrument malfunctions, etc.]
5c. Reporting => specified in 40 CFR Part 51 [(Appendix P)]

Footnotes:

{1} $Y = 0.6X$ ($Y = 1.1X$), where X = the operating heat input in millions of BTUs (kg-cal) per hour, and Y = the allowable rate of emission of sulfur in pounds (kg) per hour. Some sources have specific limitations.

SO2 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, Sections .682, and .742 through .748

Applicable Area : Statewide
Applicable Time Frame : Before 11/07/75
Facility Type : Indirect heat transfer units
Facility Size (MMBtu/hr) : Greater than or equal to 250 (63 MMkg-cal)
Fuel Type : Combination of solid and liquid fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Calculated by equation. {1}

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5c
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 51 (Appendix P)]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [445.692; A quarterly report of excess emissions identifying the date and time of emissions; the nature, cause and remedy of all facility and instrument malfunctions, etc.]
5c. Reporting => specified in 40 CFR Part 51 [(Appendix P)]

Footnotes:

{1} $Y = L(0.7) + S(1.1) / L + S$, where X = the operating heat input in millions of BTUs (kg-cal) per hour, and Y = the allowable rate of emission of sulfur in pounds (kg) per hour, and L = the percentage of total heat input derived from liquid fuel, and S = the percentage of total heat input derived from solid fuel. Some sources have specific limitations.

SO2 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, sections .682 and .8185

Applicable Area : Statewide
Applicable Time Frame : After 11/07/75
Facility Type : Steam and electric generating boilers for recovery of resources
Facility Size (MMBtu/hr) : All
Fuel Type : All fossil fuel

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 10.05

Compliance Procedures :: 1e, 2c, 3a, 4a, 5a, 5e
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 60]
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60
5e. Reporting => other [Compliance with ambient standards must be based on the applicable models, bases, and other requirements specified in "Guideline on air Quality Models" (OAQPS 1.2 -080), June 1, 1984.]

S02 Regulation Report

State : NEVADA
Region : 9
State Regulation Citation : Chapter 445, Sections .682 and .838

Applicable Area : Region 147, Basin 73, Lovelock Valley. Southwest Gas Corporation
Applicable Time Frame : After 11/07/75
Facility Type : Liquified natural gas facilities: gas turbines and vaporizers
Facility Size (MMBtu/hr) : All
Fuel Type : Liquified natural gas

Emissions Limits:
(lb SO2/MMBtu) : Less than or equal to 0.0003 lb SO2/MMBtu (1)

Compliance Procedures :: 1e, 2a, 2c, 3a, 4a, 5a
1e. Heat Input Determination => other [The aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater.]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2c. Test Methods => other testing [Testing and or sampling will be determined by the Director. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.]
3a. Monitoring Requirements => continuous SO2 monitoring [40 CFR part 60]
4a. Averaging Time => specified in 40 CFR Part 60
5a. Reporting => specified in 40 CFR Part 60

Footnotes:
(1) Less than or equal to 2.1 gr/MMBtu natural gas burned (0.5 g/MMKg-cal)

S02 Regulation Report

State : ALASKA
Region : 10
State Regulation Citation : Alaska Administrative Code, Title 18, Chapter 50

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : All

Emissions Limits:
(ppm S02) : Less than 500

Compliance Procedures :: 1e, 2a, 2b4, 3a, 4c, 5d
1e. Heat Input Determination => other [Not specified]
2a. Test Methods => source testing (as specified in 40 CFR Part 60)
2b4. Test Methods => fuel testing: other [Not specified]
3a. Monitoring Requirements => continuous S02 monitoring
4c. Averaging Time => 3 hours
5d. Reporting => specified by the Director

S02 Regulation Report

State : IDAHO
Region : 10
State Regulation Citation : Idaho Department of Health and Welfare, Rules and Regulations Sections 01.1351 through 01.1400.

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : Less than 0.3 for distillate fuel oil ASTM grade 1, less than 0.5 for distillate fuel oil ASTM grade 2, less than 1.75 for residual fuel oils.

Compliance Procedures :: 1e, 2b2, 3c, 4d, 5b
1e. Heat Input Determination => other [Not specified.]
2b2. Test Methods => fuel testing: ASTM [D 1551-68, D 129-64, or D 1552-64]
3c. Monitoring Requirements => sulfur content of fuel
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [Monthly summaries including production rate, raw material feed rate, fuel use rate, fuel analysis for sulfur, ash and heat content, hours of operation, and emission measurements.]

S02 Regulation Report

State : IDAHO
Region : 10
State Regulation Citation : Idaho Department of Health and Welfare, Rules and Regulations Sections 01.1351 through 01.1400.

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(% S) : Less than 1.0

Compliance Procedures :: 1e, 2b1, 3c, 4d, 5b
1e. Heat Input Determination => other [Not specified.]
2b1. Test Methods => fuel testing: ASTM [Mechanical: D2234065, sample preparation: D 2013-65, sample analysis: D 271-68.]
3c. Monitoring Requirements => sulfur content of fuel
4d. Averaging Time => 24 hours
5b. Reporting => state regulation [Monthly summaries to include production rate, fuel use rate, fuel analysis for sulfur, ash and heat content, hours of operation, and emissions measurements.]

S02 Regulation Report

State : OREGON
Region : 10
State Regulation Citation : State of Oregon Air Quality Control Program, Chapter 340, division 22.

Applicable Area : Statewide
Applicable Time Frame : After 01/01/72
Facility Type : All
Facility Size (MMBtu/hr) : 150-250
Fuel Type : Liquid

Emissions Limits:
(lb SO2/MMBtu) : 1.4

Compliance Procedures :: 1a, 2c, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2c. Test Methods => other testing [As approved by Department]
3e. Monitoring Requirements => other [Methods on file with Oregon Department of Environmental Quality.]
4g. Averaging Time => other [Two hour]
5b. Reporting => state regulation [Reports prepared semi-annually on forms prepared by Oregon Department of Environmental Quality.]

S02 Regulation Report

State : OREGON
Region : 10
State Regulation Citation : State of Oregon Air Quality Control Program, Chapter 340, Division 22.

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Liquid

Emissions Limits:
(% S) : Less than 0.3 (distillate ASTM grade 1), less than 0.5 (distillate ASTM grade 2),
and less than 1.75 (residual fuel oils).

Compliance Procedures :: 1e, 2c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [As approved by the Department.]
3e. Monitoring Requirements => other [Methods are on file with the Oregon Department of Environmental
Quality.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [Semi-annual reports on forms prepared by the Oregon
Department of Environmental Quality.]

S02 Regulation Report

State : OREGON
Region : 10
State Regulation Citation : State of Oregon Air Quality Control Program, Chapter 340, Division 22.

Applicable Area : Statewide
Applicable Time Frame : After 01/01/72
Facility Type : All
Facility Size (MMBtu/hr) : 150-250
Fuel Type : Solid

Emissions Limits:
(lb SO2/MMBtu) : 1.6

Compliance Procedures :: 1a, 2b4, 3b, 3e, 4g, 5b
1a. Heat Input Determination => unit design rated (MMBtu/hr)
2b4. Test Methods => fuel testing: other [As approved by the Department.]
3b. Monitoring Requirements => ambient monitoring or diffusion estimate
3e. Monitoring Requirements => other [Methods are on file with the Oregon Department of Environmental Quality.]
4g. Averaging Time => other [Two hour]
5b. Reporting => state regulation [Semi-annual reports on forms prepared by the Oregon Department of Environmental Quality.]

SO2 Regulation Report

State : OREGON
Region : 10
State Regulation Citation : State of Oregon Air Quality Control Program, Chapter 340, division 22.

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(% S) : 1.0

Compliance Procedures :: 1e, 2c, 3e, 4g, 5b
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [As approved by the Director.]
3e. Monitoring Requirements => other [Methods are on file with the Oregon Department of Environmental Quality.]
4g. Averaging Time => other [Not specified.]
5b. Reporting => state regulation [Semi-annual reports on forms prepared by the Oregon Department of Environmental Quality.]

S02 Regulation Report

State : OREGON
Region : 10
State Regulation Citation : State of Oregon Air Quality Control Program, Chapter 340, division 22.

Applicable Area : Portland, Salem, Eugene-Springfield, and Medford-Ashland Air Quality Maintenance Areas, unless exempted by the Department.
Applicable Time Frame : Global
Facility Type : All
Facility Size (MMBtu/hr) : All
Fuel Type : Solid

Emissions Limits:
(% S) : Less than or equal to 0.3

Compliance Procedures :: 1e, 2b1, 3e, 4g, 5e
1e. Heat Input Determination => other [Not specified.]
2b1. Test Methods => fuel testing: ASTM [D-3175]
3e. Monitoring Requirements => other [Methods are on file with the Oregon Department of Environmental Quality.]
4g. Averaging Time => other [Not specified.]
5e. Reporting => other [Reports prepared semi-annually on forms prepared by the Oregon Department of Environmental Quality.]

S02 Regulation Report

State : WASHINGTON
Region : 10
State Regulation Citation : Regulation 1, Chapter 9.07

Applicable Area : Puget Sound District (King, Kitsap, Pierce, and Snohomish Counties)
Applicable Time Frame : Global
Facility Type : All, including wigwam burners and hog fuel boilers.
Facility Size (MMBtu/hr) : All
Fuel Type : All, including wood waste

Emissions Limits:
(ppm SO2) : Less than 1000 (1)

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5c
1e. Heat Input Determination => other [Not specified]
2c. Test Methods => other testing [May be required to test according to the "Source Test Manual- Procedures for Compliance Testing," State of Washington, Department of Ecology.]
3a. Monitoring Requirements => continuous SO2 monitoring [Except for fossil fuel steam generators < 250 MMBtu per hour, facilities with no SO2 control equipment in place, and wood residue-fuel fired steam generators]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [Yearly inventory of stack and fugitive emissions, total emissions for year in tons, an estimate of 1 and 24 hour emissions from maximum capacity operation, and average sulfur content of fuel]
5c. Reporting => specified in 40 CFR Part 51

Footnotes:

(1) Emission limit is to be corrected to 7% oxygen. Sources emitting more than 40 lb SO2/hr must also reduce SO2 emissions by ninety percent.

S02 Regulation Report

State : WASHINGTON
Region : 10
State Regulation Citation : Washington Administrative Code 173-400

Applicable Area : Statewide
Applicable Time Frame : Global
Facility Type : All, including wigwam burners and hog fuel boilers.
Facility Size (MMBtu/hr) : All
Fuel Type : All, including wood waste

Emissions Limits:
(ppm SO2) : Less than 1000 (1)

Compliance Procedures :: 1e, 2c, 3a, 4b, 5b, 5c
1e. Heat Input Determination => other [Not specified.]
2c. Test Methods => other testing [May be required to test according to the "Source Test Manual - Procedures for Compliance Testing," State of Washington, Department of Ecology.]
3a. Monitoring Requirements => continuous SO2 monitoring [Except for fossil fuel steam generators less than 250 MMBtu per hour, facilities with no SO2 control equipment in place, and wood residue-fuel fired steam generators.]
4b. Averaging Time => 1 hour
5b. Reporting => state regulation [Yearly inventory of stack and fugitive emissions, total emissions for year in tons, an estimate of 1 and 24 hour emissions from maximum capacity operation, and average sulfur content of fuel.]
5c. Reporting => specified in 40 CFR Part 51

Footnotes:
(1) Corrected to 7% oxygen for combustion sources.

TECHNICAL REPORT DATA <i>(Please read Instructions on the reverse before completing)</i>		
1. REPORT NO. EPA-450/2-89-014	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE Analysis of State and Federal Sulfur Dioxide Emission Regulations for Combustion Sources (Revised)		5. REPORT DATE September 1989
		6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Radian Corporation Progress Center 3200 E. Chapel Hill Road/Nelson Highway PO Box 13000, Research Triangle Park, NC 27709		10. PROGRAM ELEMENT NO.
		11. CONTRACT/GRANT NO. 68-02-4392 Work Assignment No. 43
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency Sulfur Dioxide/Particulate Matter Programs Branch Air Quality Management Division (MD-15) Research Triangle Park, NC 27711		13. TYPE OF REPORT AND PERIOD COVERED Final
		14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES This is a revision of the Analysis of State and Federal Sulfur Dioxide Emission Regulations for Combustion Sources, published in November 1981.		
16. ABSTRACT <p>State implementation plan (SIP) regulations and Federal new source performance standards (NSPS) pertaining to sulfur dioxide (SO₂) emissions from fuel combustion sources have been compiled and summarized in this report. State regulations which were submitted to the Environmental Protection Agency (EPA) and have been approved as part of the SIP as of December 31, 1988 are included. The source categories to which the regulations presented herein apply are broadly defined as indirect and direct heat exchangers, and primary steam generators (boilers).</p> <p>This report will serve as a quick reference for estimating SO₂ emission rates, assessing ranges of SO₂ control, and quantifying the relative stringency of emission limits. Users are cautioned, however, to contact the appropriate State and/or local air pollution control agency and EPA Regional Office to verify the specific SO₂ emission limit that is applicable to an individual source.</p>		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air Pollution Combustion Sulfur Dioxide	State implementation plan New source performance standards Emission regulations	13B 21B
18. DISTRIBUTION STATEMENT Unlimited	19. SECURITY CLASS (This Report) Unclassified	21. NO. OF PAGES 426
	20. SECURITY CLASS (This page) Unclassified	22. PRICE

APPENDIX A

FEDERAL NSPS AFFECTING SO₂ EMISSIONS FROM FUEL COMBUSTION

Summary of NSPS SO₂ Regulations
40 CFR 60.40 Subpart D -- Standards of Performance for Fossil-Fuel-Fired Steam Generators

Affected Facility	Applicable Time Frame	Emission Limits	Initial Performance Testing	Monitoring	Definition of Periods of Excess Emissions
Fossil-fuel-fired steam generating unit >73 MW heat input rate (250 MMBtu/hour) or Fossil-fuel and wood-residue-fired steam generating unit capable of firing at >73 MW (250 MMBtu/hour)	After 8/17/71	340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel and wood residue. 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel and wood residue (except units at the Newton Power Station owned or operated by the Illinois Public Service Co.) When different fossil fuels burned simultaneously, limit determined by proportion using the formula: $PS(SO_2) = [y(340) + z(520)] / (y + z)$ (See Section 60.43.)	Performance test in accordance with Section 60.8. Performance Specification 2 (Appendix B) used in evaluating acceptability of CHS at time of installation (i.e., for preparing calibration mixtures). Span (liquid fossil fuel) = 1,000 ppm. Span (solid fossil fuel) = 1,500 ppm. Span (combination of fuels) = (1,000y + 1,500z) ppm. where: y = the fraction of total heat input derived from gaseous fossil fuel; and z = the fraction of total heat input derived from solid fossil fuel. All span values rounded to nearest 500 ppm.	Continuous monitoring system (to measure SO ₂ and either CO or O ₂) required except for: (1) a steam generating unit that burns only gaseous fossil fuel and (2) a unit without an FGD system if the owner/operator monitors SO ₂ by fuel sampling and analysis. If no continuous monitoring system used for SO ₂ , then none required for O ₂ or CO ₂ . Methods 3, 3A, 6, 6A, 6B, or 6C. Method 1 for selection of sampling site and sampling traverses. For Method 6, Method 3 for gas analysis. Method 6 or 6C for concentration of SO ₂ . Method 6A may be used whenever Methods 6 or 6C and 3 or 3A data are used to determine the SO ₂ emission rate in ng. Method 6C shall be used only at the sole discretion of the source owner or operator. Min. sampling time for Method 6, 20 min. and min. sample vol. = 0.02 dscm (0.71 dscf) for each sample. Arithmetic average of 2 samples = 1 run. Samples taken ~30 min. for Methods 6 and 6C, the O ₂ sample shall be obtained simultaneously at the same point in the duct.	Any 3-hour period during which the average emissions (arithmetic average of 3 contiguous 1-hour periods) of SO ₂ as measured by a continuous monitoring system exceed the standards.

Summary of NSPS SO₂ Regulations
40 CFR 60.40a Subpart Da -- Standards of Performance for Electric Utility Steam Generators

Affected Facility	Applicable Time Frame	Emission Limits	Initial Performance Testing	Monitoring	Definition of Periods of Excess Emissions
Electric utility steam generating unit (combined cycle gas turbine) capable of combusting > 75 MW heat input (250 MMBtu/hour) of fossil fuel (either alone or in combination with any other fuel)	After 9/18/78	<p>When combusting solid or solid-derived fuel:</p> <p>(1) 520 ng/J heat input (1.20 lb/MMBtu) heat input and 10% of the potential combustion conc. (90%) or</p> <p>(2) 10% of the potential combustion conc. (70% reduction), when emissions are ≤260 ng/J (0.60 lb/MMBtu) heat input.</p> <p>When combusting liquid or gaseous fuels (except those derived from solid fuels):</p> <p>(1) 340 ng/J heat input (0.80 lb/MMBtu) heat input and 10% of the potential combustion conc. (90%) or</p> <p>(2) 100% of the potential combustion conc. (0% reduction) when emissions are ≤86 ng/J (0.20 lb/MMBtu) heat input.</p> <p>When combusting solid solvent refined coal (SCR-I):</p> <p>520 ng/J heat input (1.20 lb/MMBtu) heat input and 15% of the potential combustion conc. (85%).</p>	<p>Performance testing in accordance with Section 60.8.</p> <p>Performance Specification 2 used in evaluating acceptability of CEMS at time of installation (i.e., used in preparing calibration gas mixtures).</p> <p>Span = 125% of max. estimated hourly potential emissions of the fuel fired (at the inlet) and 50% (at the outlet).</p> <p>See Section 60.8, performance test based on average emission rates for the first 30 days within 60 days after achieving the max. production rate. (Not later than 180 days after date of initial startup.) Calculated as arithmetic average of all hourly emission rates for the 30 successive boiler operating days except for data obtained during emergency conditions. Compliance with 1 reduction is based on average inlet and outlet emission rates. Standards, use 30-day rolling average basis. Compliance with 2 reduction determined on a 24-hour basis.</p>	<p>Continuous monitoring system for SO₂ (both inlet and outlet of control device). Alternatively, an as-fired fuel monitoring system (upstream of coal pulverizers) meeting the requirements of Method 19 (Appendix A) may be used. Continuous monitoring system for O₂ or CO₂. 1 hour averages must contain at least 2 data points.</p> <p>Methods 3 or 3A, 6 or 6C. Method 6A or 6B may be used whenever Methods 6 and 3 data are required to determine the SO₂ emission rate in ng/J. Methods 6A and 6C are used solely at the discretion of the owner/operator.</p> <p>Min. sampling time for Method 6, 20 min. and min. sample vol. = 0.02 dscm (0.71 dscf) for each sample. Samples collected every 60 min. Each sample = 1 hour average. Method 6B operated for 24 hours per sample. Min. sample vol. = 0.02 dscm (0.71 dscf) for each sample. Each Method 6B sample = 24 1-hour averages.</p>	Any 30-day period during which the average (rolling) emissions of SO ₂ as measured by a continuous monitoring system exceed the standards.

Summary of NSPS SO₂ Regulations
40 CFR 60.40b Subpart Db -- Standards of Performance for Industrial-Commercial-Institutional Steam Generators

Affected Facility	Applicable Time Frame	Emission Limits	Initial Performance Testing	Monitoring	Definition of Periods of Excess Emissions
Steam generating unit with input capacity from fuels combusted of >29 MW heat input (100 MMBtu/hour)	After 6/19/84	When combusting coal or oil: 10% of the potential combustion conc. (90% reduction) or an emission limit determined by the following formula: $E(S) = [K(c)H(c) + R(d)H(d)]/H(c) + H(d)$ where: $E(s)$ is the SO ₂ emission limit (ng/J) $K(c) = 240 \text{ ng/J}$ (0.60 lb/MMBtu) $R(d) = 170 \text{ ng/J}$ (0.40 lb/MMBtu) $H(c) = \text{heat input from combusting coal, J (MMBtu)}$ $H(d) = \text{heat input from combusting oil, J (MMBtu)}$ When combusting coal refuse alone in an FCC: 20% of the potential combustion conc. (80% reduction) with SO ₂ emissions <520 ng/J (1.2 lb/MMBtu) heat input. When combusting coal or oil (alone or in combination) and using an emerging technology: 50% of the potential combustion conc. (50% reduction) and emission limit calculated using the above formula.	Performance test in accordance with Section 60.8. Conducted over first 30 consecutive operating days. 30 day average. First day of test scheduled within 30 days of achieving max. production rate (but no later than 180 days after startup) Performance Specification 2 (Appendix B) used in evaluating acceptability of CDHS at time of installation (i.e., preparing calibration gas mixtures). Quarterly accuracy determinations and daily calibration drift tests according to Procedure 1, Appendix F. Span = 125% of max. estimated hourly potential emissions of fuel combusted (at the inlet); 50% (at the outlet).	Continuous monitoring system for SO ₂ and O ₂ or CO ₂ (at inlet and outlet); 30-day rolling average basis except if (1) annual capacity factor for oil limited to 10% or less; (2) only oil which emits <130 ng/J is combusted; and (3) no other fuel is combusted. Alternative methods: (1) Collect coal or oil samples at inlet and analyze for S and heat content (Method 19); (2) Method 69; (3) Daily emission rate determined by Method 6A; (4) Mean 30-day emission rate (Equation 19-20 of Method 19).	Any 30-day period during which the average emissions (rolling) of SO ₂ as measured by a continuous monitoring system exceed the standards.
Steam generating unit with input capacity from fuels combusted of >29 MW heat input (100 MMBtu/hour) (1) with annual capacity factor <30%, (2) located in a noncontingent area, (3) combusting coal or oil alone or in combination with another fuel, in a duct burner as part of a combined cycle system where 30% or less of heat input is from coal or oil in the duct burner and 2/3 is from exhaust gases entering the duct burner. (*) combusting very low sulfur oil		When combusting: 520 ng/J (1.2 lb/MMBtu) heat input When combusting oil: 130 ng/J (0.30 lb/MMBtu) heat input No 2 reduction here			

Summary of NSPS SO₂ Regulations
40 CFR 60.330 Subpart GG -- Standards of Performance for Stationary Gas Turbines

Affected Facility	Applicable Time Frame	Emission Limits	Initial Performance Testing	Monitoring	Definition of Periods of Excess Emissions
Stationary gas turbine with a heat input at peak load > 10.7 GJ/hour, based on the lower heating value of the fuel fired	After 10/3/77	One of the following conditions must be met: (1) $\leq 0.015\%$ by vol of SO ₂ from gases discharged to the atmosphere at 15% O ₂ (dry basis); (2) ≤ 0.81 by weight S content of fuel burned	Performance test as stated in Section 60.8.	Reference Method 20 for the concentration of SO ₂ . SO ₂ content of fuel fired must be monitored. If fuel is from a bulk storage tank, values shall be determined each time fuel is transferred to the storage tank. If fuel does not undergo bulk storage, values shall be determined and recorded daily. For S content, use ASTM D-2880-71 for liquid fuels; use ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 for gaseous fuels.	Any daily period during which the S content of the fuel fired exceeds 0.81.