Subpart Dc - Standards of performance for Small Industrial-Commercial-Steam Generating Units

Applicability §60.40c

General	This subpart applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

Emission Standards

Sources	SOx §60.42c	PM §60.43c
General	1.) Reduction in the potential SO2 emission rate through fuel pretreatment is not credited toward the percent reduction requirements unless: a.) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO2 emission rate; and b.) Emissions from the pretreated fuel are less than the emission limits specified for the affected facility. 2.) For affected facilities listed under §60.42c (h) (1-3) compliance with the emission limits or fuel oil sulfur limits may be determined based on a certification from the fuel supplier. 3.) Compliance with the percent reduction requirements, fuel oil sulfur limits,and emission limits shall be determined on a 30 day rolling average. 4.) The SO2 emission limits, fuel oil sulfur limits, and percent reduction requirements apply at all times, including periods of startup, shutdown, and malfunction.	1.) Facility may not emit gases that exhibit greater than 20 percent opacity over a 6-minute period. Except for one 6-minute period per hour of not more than 27 percent opacity. 2.) The standards apply at all times except during periods of startup, shutdown, or malfunction.
Facilities that combusts coal only	1.) Facility may not discharge into the atmosphere any gases that contain SO2 in excess of 10 percent (0.10) of the potential SO2 emission rate (90 percent reduction). 2.) Facility may not discharge into the atmosphere any gases that contain SO2 in excess of 520 ng/J (1.2 lb/million Btu) heat input.	Facility may not emit greater than 22 ng/J (0.05 lb/MMBtu) heat input.

Sources	SOx §60.42c	PM §60.43c
Facilities that combust coal with other fuels	1.) Facility may not discharge into the atmosphere any gases that contain SO2 in excess of 10 percent (0.10) of the potential SO2 emission rate (90 percent reduction). 2.) Facility may not emit SO2 greater than the emission limit determined by the following equation: Es=(Ka*Ha+Kb*Hb+Kc*Hc)/(Ha+Hb+Hc) *See §60.42c (e) (2) for variables and units.	1.) Facility may not emit greater than 22 ng/J (0.05 lb/MMBtu) heat input if the affected facility has an annual capacity factor for other fuels of 10 percent (0.10) or less. 2.) Facility may not emit greater than 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for other fuels greater than 10 percent (0.10) and is subject to federally enforceable requirement limiting the facility to a capacity factor greater than 10 percent (.10) for fuels other than coal.
Facilities that combust coal refuse alone in a fluidized bed comgustion steam generating unit	1.) Facility may not emit SOx greater than 20 percent (0.20) of the potential uncontrolled SOx emission rate (80 percent reduction). 2.) Facility may not emit SOx greater than 520 ng/J (1.2 lb/MMBtu) heat input.	
Facility that combust oil or any other fuel (except coal) with coal refuse	1.) Facility may not discharge into the atmosphere any gases that contain SO2 in excess of 10 percent (0.10) of the potential SO2 emission rate (90 percent reduction). 2.) Facility may not emit SO2 greater than the emission limit determined by the following equation: Es=(Ka*Ha+Kb*Hb+Kc*Hc)/(Ha+Hb+Hc) *See §60.42c (e) (2) for variables and units.	
Facility that combust only coal and uses an emerging technology for control of SOx	1.) Facility may not emit SOx greater than 50 percent (0.50) of the potential uncontrolled SO2 emission rate (50 percent reduction). 2.) Facility may not emit SOx greater than 260 ng/J (0.60 lb/million Btu) heat input.	
Facility that combust coal with other fuels and uses an emerging technology for control of SOx	1.) Facility may not emit SOx greater than 50 percent (0.50) of the potential uncontrolled SO2 emission rate (50 percent reduction). 2.) Facility may not emit SO2 greater than the emission limit determined by the following equation: Es=(Ka*Ha+Kb*Hb+Kc*Hc)/(Ha+Hb+Hc) *See §60.42c (e) (2) for variables and units.	
Facilities that combust coal alone or in combination with any other fuels and the facility is listed in §60.42c (c) (1-4)	1.) Facility may not emit SO2 greater than the emission limit determined by the following equation: Es=(Ka*Ha+Kb*Hb+Kc*Hc)/(Ha+Hb+Hc) *See §60.42c (e) (2) for variables and units. 2.) Facility is not required to meet percent reduction requirements.	

Sources	SOx §60.42c	PM §60.43c
Facility that combust oil only	1.) Facility may not emit greater than 215 ng/J (0.50 lb/MMBtu) heat input. or 2.) Facility may as an alternative combust oil that contains greater than 0.5 weight percent sulfur. 3.) Facilities are not required to meet percent reduction requirements.	
Facilities that combust wood or mixtures of wood with other fuels (except coal)		1.) Facility may not emit greater than 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or 2.) Facility may not emit greater than 130 ng/J (0.30 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

Compliance and performance test methods and procedures

Source	SOx - §60.44c	PM - §60.45c
General	1.) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. 2.) Compliance with the percent reduction requirements and SO2 emission limits shall be determined using a 30-day average. 3.) The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. 4.) The steam generating unit load during the 30- day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions. 5.) After the initial performance test compliance with the percent reduction requirements and SO2 emission limits is based on the average percent reduction and the average S02 emission rates for 30 consecutive steam generating unit operating days. 6.) A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO2 emission rate are calculated to show compliance with the standard. 7.) Facility shall use all valid SO2 emissions data in calculating %Ps and Eho, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. 8.) All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %Ps or Eho.	1.) Facilities subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test. 2.) Facility shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the procedures found in §60.45c (a) (1-7) 3.) Facilities seeking to demonstrate compliance with the PM standards shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. 4.) This demonstration shall be made during the initial performance test. 5.) Subsequent demonstrations may be requested at any other time. 6.) If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.
Facilities that combust only coal, only oil, or a mixture of coal and oil	1.) Procedures in Method 19 are used to determine the hourly SO2 emission rate (Eho) and the 30-day average SO2 emission rate (Eao). 2.) The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system (CEMS). 3.) Method 19 shall be used to calculate Eao when using daily fuel sampling or Method 6B.	
Facilities that combust only coal, only oil, or a mixture of coal and oil with other fuels	An adjusted Eho (Ehoo) is used in Equation 19-19 of Method 19 to compute the adjusted Eao (Eaoo). The Ehoo is computed using the following formula: Ehoo=[Eho-Ew(1-Xk)]/Xk *See §60.44c (d) (1) for variables and units.	

Source	SOx - §60.44c	PM - §60.45c
Facilities that combust coal only	Percent of potential SO2 emission rate is computed using the following formula: %Ps=100(1-%Rg/100)(1-%Rf/100) *See §60.44c (f) (1) for variables and units.	
Facilities that combust coal, oil, or coal and oil with other fuels	Percent of potential SO2 emission rate is computed using the following formula: %Ps=100(1-%Rg/100)(1-%Rf/100) *See §60.44c (f) (2) for variables and units.	
Facilities that are oil fired where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits based on shipment fuel sampling	1.) The initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. 2.) Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received 3.) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO2 standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f)(1), (2), or (3), as applicable.	
Facilities with a annual capacity for coal of 55 percent (0.55) or less	Facility shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. *See §60.44c (i) for specific requirements	

Emission monitoring

Source	SOx - §60.46c	PM - §60.47c
General	1.) Facilities subject to SO2 emission limits shall install, calibrate, maintain, and operate a CEMS for measuring SO2 concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO2 control device (or the outlet of the steam generating unit if no SO2 control device is used), and shall record the output of the system. 2.) The owner or operator of an affected facility subject to the percent reduction requirements shall measure SO2 concentrations and either oxygen or carbon dioxide concentrations at both the inlet and outlet of the SO2 control device. 3.) The 1-hour average SO2 emission rates measured by a CEM shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates. 4.) Each 1-hour average SO2 emission rate must be based on at least 30 minutes of operation and include at least 2 data points representing two 15-minute periods. 5.) Hourly SO2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day. 6.) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS. See §60.46c (c) (1-4) for procedures. 7.) As an alternative to operating a CEMS at the inlet to the SO2 control device (or outlet of the steam generating unit if no SO2 control device is used), an owner or operator may elect to determine the average SO2 emission rate by sampling the fuel prior to combustion. 8.) As an alternative to operating a CEM at the outlet from the SO2 control device (or outlet of the steam generating unit if no SO2 control device is used) an owner or operator may elect to determine the average SO2 emission rate by using Method 6B. 9.) Fuel sampling shall be conducted following the procedures found in §60.46c (d) (1-3). 10.) Method 6B shall be conducted following the procedures found in §60.46c (d) (1-3). 11.) Facilities seeking to demonstrate compliance with the SOx standards based on fuel supplier certification, are not subject to the above requirements. 12.) Facilities operating a CEMS , or conducting as-fired fuel sampling shall obtain emission data for at least 75 percent of the operating hours. See §60.46c (f) for specific requirements.	1.) Facilities combusting coal, residual oil, or wood that is subject to the opacity standards shall install, calibrate, maintain, and operate a CEMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. 2.) All CEMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 (appendix B). 3.) The span value of the opacity CEMS shall be between 60 and 80 percent.

Reporting and record keeping - §60.48c

Source	All Emissions
General	1.) Facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, This notification shall include: a.) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. b.) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels. c.) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired. d.) Notification if an emerging technology will be used for controlling SO2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. 2.) Facilities subject to the SO2 emission limits or the PM or opacity limits shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS using the applicable performance specifications in appendix B. 3.) Fuel supplier information which must be submitted to the administrator includes the information found in §60.48c (f). 4.) Facility shall record and maintain records of the amounts of each fuel combusted during each day. 5.) Facility shall maintain all records for a period of two years following the date of such record.
Facilities that are coal-fired, residual oil-fired, or wood-fired affected facility subject to the opacity limits	1.) Facility shall submit excess emission reports for any calendar quarter for which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. 2.) The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test, unless no excess emissions occur during that quarter. The initial semiannual report shall be postmarked by the 30th day of the sixth month following the completion of the initial performance test, or following the date of the previous quarterly report, as applicable. 3.) Each subsequent quarterly or semiannual report shall be postmarked by the 30th day following the end of the reporting period.
Facilities subject to the SO2 emission limits, fuel oil sulfur limits, or percent reduction requirements	1.) Facility shall submit quarterly reports to the Administrator. 2.) The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test. 3.) Subsequenty quarterly report shall be postmarked by the 30th day following the end of the reporting period. 4.) Facilities shall keep records and submit quarterly reports including the information found in §60.48c (e) (1-11).
Facilities subject to a Federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels	Facility shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.