

45CSR10A

**TITLE 45
INTERPRETIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY**

**SERIES 10A
TESTING, MONITORING, RECORDKEEPING AND REPORTING
REQUIREMENTS UNDER 45CSR10**

§45-10A-1. General.

1.1. Scope. -- Series 10A provides guidance and clarification for complying with the testing, monitoring, recordkeeping and reporting requirements of 45CSR10, "To Prevent and Control Air Pollution from the Emission of Sulfur Oxides." This rule is an interpretive rule, not a legislative rule, as those terms are defined under W. Va. Code §29A-1-2.

1.2. Authority. -- W. Va. Code §§22-5-1 et seq. and WV 45CSR10.

1.3. Filing Date. -- December 26, 2001.

1.4. Effective Date. -- January 25, 2002.

§45-10A-2. Definitions.

2.1. "ASTM Approved" means test methods and procedures approved and published by the American Society for Testing and Materials.

2.2. "Combustion Source" means a source(s) subject to the standards set forth in section 5 of 45CSR10.

2.3. "Continuous Emission Monitoring System" or "CEMS" means all equipment required for the determination of gas concentration or emission rate, installed, calibrated, operated and maintained as specified in 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification 2 or Performance Specification 7 and 40 CFR Part 60, Appendix F.

2.4. "Excursion" means: (1) measured emissions exceeding the applicable standards set forth in sections 3, 4, and 5 of 45CSR10; or (2)

operating parameters outside the range set forth in an approved monitoring plan, which may or may not result in measured emissions exceeding the applicable standards set forth in sections 3, 4, and 5 of 45CSR10.

2.5. "Factor," in $\text{lbSO}_2/\text{mmBTU}$, means the number, indicated in 45CSR10, subsection 3.1, 3.2, or 3.3, as appropriate, to be multiplied by the TDHI to calculate the maximum amount of sulfur dioxide permitted to be discharged to the atmosphere from all stacks located at one plant, expressed in units of pounds per hour.

2.6. "Fuel Quality Analysis" means the sulfur content and the BTU content.

2.7. "Pipeline Quality Natural Gas" means, for purposes of this rule only, natural gas with a sulfur content less than or equal to 20 grains per 100 dry standard cubic feet (dscf).

2.8. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in WV CSR §45-10-2 or W. Va. Code §22-5-1 et seq.

§45-10A-3. Applicability.

3.1. This rule applies to any fuel burning unit(s), manufacturing process source(s) or combustion source(s) subject to 45CSR10, except as follows:

3.1.a. Fuel burning unit(s) with a design heat input (DHI) of less than 10 million BTUs per hour (mmBTU/hr);

3.1.b. Fuel burning unit(s) which combust natural gas, wood or distillate oil, alone or in

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combination;

3.1.c. Manufacturing process source operation(s) which have the potential to emit less than 500 pounds per year of sulfur oxides; or

3.1.d. Manufacturing operations in which the process is to partially combust wood during the manufacture of charcoal.

§45-10A-4. Fuel Burning Unit(s) -- Registration of Allowable Emission Rates for Individual Stacks.

4.1. In accordance with subdivision 3.4.a of 45CSR10, the owner or operator of each fuel burning unit(s) shall register an allowable emission rate for each individual stack, in pounds per hour, determined as provided in Appendix B, except where:

4.1.a. The owner or operator of a fuel burning unit utilizes CEMS or daily ASTM method sampling and analysis to demonstrate compliance with the plant-wide emission limit and the provisions of subdivision 3.4.a of 45CSR10; or

4.1.b. The Secretary has approved a petition for an alternative individual stack allowable emission rate, filed by the owner or operator in accordance with subdivision 3.4.b of 45CSR10.

§45-10A-5. Testing Requirements.

5.1. Fuel Burning Unit(s).

5.1.a. The owner or operator shall conduct or have conducted, weight emission tests to determine the compliance of each fuel burning unit with the weight emission standards set forth in section 3 of 45CSR10 at a frequency established in the following table. Weight emission tests shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 6 or other equivalent EPA testing method approved by the Secretary. If weight emission testing is required, the initial weight emission test shall be conducted within a time period starting March 15, 2000, and ending March 15, 2002, for existing units and within one hundred eighty (180) days of start-up for new

unit(s).

Percent of Factor	Testing Frequency
≤50% of Factor	No stack testing required
Between 50% and 90% of Factor	Once every 5 years
≥90% of Factor	Once every year

5.1.b. The owner or operator of a fuel burning unit(s), with a DHI greater than or equal to 10 mmBTU/hr but less than 100 mmBTU/hr, may petition the Secretary for an alternative to weight emission testing.

5.1.c. The owner or operator of a fuel burning unit may petition for alternatives to the testing requirements of subsection 5.1 for units that are infrequently used or for infrequently used fuels.

5.2. Manufacturing Process Source(s).

5.2.a. The owner or operator shall conduct or have conducted, compliance tests to determine the compliance of each manufacturing process source with the emission standards set forth in section 4 of 45CSR10. Compliance tests shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 6 or other equivalent EPA testing method approved by the Secretary. The initial compliance test shall be conducted within a time period starting March 15, 2000, and ending March 15, 2002, for existing units and within one hundred eighty (180) days of start-up for new unit(s). The results of the initial test shall be a consideration in establishing a compliance testing frequency. Compliance tests shall be conducted at a frequency established in the approved monitoring plan.

5.2.b. Manufacturing process source(s) utilizing a flare as a control device shall be exempt from the compliance testing requirements of subdivision 5.2.a.

5.2.c. The owner or operator of a

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manufacturing process source(s) may for good cause petition the Secretary for an alternative to compliance testing, which may include, but not be limited to, process gas sampling for percent sulfur by weight. To determine the emission rate of sulfur dioxide the manufacturing process source(s) shall assume 100% conversion to sulfur dioxide of all unrecovered sulfur compounds.

5.3. Combustion Source(s). -- The owner or operator shall conduct or have conducted, compliance tests to determine the compliance of each combustion source with the standards set forth in section 5 of 45CSR10. Compliance tests shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 15 or other equivalent EPA testing method approved by the Secretary. The initial compliance test shall be conducted within a time period starting March 15, 2000, and ending March 15, 2002, for existing units and within one hundred eighty (180) days of start-up for new unit(s). The results of the initial test shall be a consideration in establishing a compliance testing frequency. Compliance tests shall be conducted at a frequency established in the approved monitoring plan.

5.4. The owner or operator of a fuel burning unit(s), manufacturing process unit(s), or combustion unit(s) employing CEMS to meet the requirements of section 6 shall be exempt from the testing requirements of subsections 5.1, 5.2 and 5.3.

5.5. The Secretary reserves the right to require testing pursuant to subsection 8.1 of 45CSR10.

§45-10A-6. Monitoring Plan Requirements.

6.1. Fuel Burning Unit(s).

6.1.a. The owner or operator of a fuel burning unit(s) shall submit, to the Secretary for approval, a monitoring plan for each fuel burning unit(s) that describes the method the owner or operator will use to monitor compliance with the weight emission standard set forth in section 3 of 45CSR10. The owner or operator of a fuel burning unit(s) may use CEMS, which shall be deemed to satisfy all of the requirements of an approved

monitoring plan, or a monitoring plan as specified in subsection 6.4, in accordance with the provisions of this section.

6.1.b. The owner or operator of a type 'a' fuel burning unit(s) shall use a CEMS to satisfy the requirements of an approved monitoring plan.

6.1.b.1. CEMS conforming to the specifications of 40 CFR Part 75 shall use unbiased, unsubstituted data to demonstrate compliance with the provisions of 45CSR10.

6.1.c. The owner or operator of a type 'b' or type 'c' fuel burning unit(s) which burns fuel with a sulfur content that equates to 90% or greater of the factor shall:

6.1.c.1. Use a CEMS to satisfy the requirements of an approved monitoring plan; or

6.1.c.2. Conduct daily "as burned" fuel analysis in accordance with applicable ASTM procedures and test methods.

6.1.d. CEMS, if required, shall be installed, operational and certified within twelve (12) months of the date of monitoring plan approval or within twelve (12) months of triggering the 90% threshold, whichever is later.

6.1.e. CEMS shall be used to satisfy the requirements of an approved monitoring plan if any other rule, permit or order requires the use of CEMS for the fuel burning unit(s). If not yet installed, the CEMS shall be installed by the date required in the other rule, permit or order.

6.2. Manufacturing Process Source(s).

6.2.a. The owner or operator of a manufacturing process source(s) shall submit, to the Secretary for approval, a monitoring plan for each manufacturing process source(s) that describes the method the owner or operator will use to monitor compliance with the applicable emission standard set forth in section 4 of 45CSR10. The owner or operator of a manufacturing process source(s) may use CEMS, which shall be deemed to satisfy all of the

requirements of an approved monitoring plan, or a monitoring plan as specified in subsection 6.4, in accordance with the provisions of this section.

6.2.b. The owner or operator of a manufacturing process source(s) with a potential to emit 100 tons per year (tpy) of sulfur dioxide and with the potential to emit sulfur dioxide at a rate greater than or equal to 90% of the applicable emission standard shall use CEMS to satisfy the requirements of an approved monitoring plan.

6.2.b.1. The owner or operator of a manufacturing process source(s) may for good cause petition the Secretary for an alternative to CEMS.

6.2.b.2. CEMS, if required, shall be installed, operational and certified within twelve (12) months of the date of monitoring plan approval, within twelve (12) months of the receipt of denial of a petition under paragraph 6.2.b.1 or within twelve (12) months of triggering the 100 tpy and 90% thresholds in subdivision 6.2.b, whichever is later.

6.2.c. CEMS shall be used to satisfy the requirements of an approved monitoring plan if any other rule, permit or order requires the use of CEMS for the manufacturing process source(s). If not yet installed, the CEMS shall be installed by the date required in the other rule, permit or order.

6.3. Combustion Source(s).

6.3.a. The owner or operator of a combustion source(s) shall submit, to the Secretary for approval, a monitoring plan for each combustion source(s) that describes the method the owner or operator will use to monitor compliance with the standard set forth in section 5 of 45CSR10. The owner or operator of a combustion source(s) may use CEMS, which shall be deemed to satisfy all of the requirements of an approved monitoring plan, or a monitoring plan as specified in subsection 6.4, in accordance with the provisions of this section.

6.3.b. The owner or operator of a combustion source(s) which has a refinery process

gas stream or any other process gas stream that contains an average hydrogen sulfide concentration greater than or equal to 45 grains per 100 cubic feet shall use CEMS to satisfy the requirements of an approved monitoring plan.

6.3.b.1. The owner or operator of a combustion source(s) may for good cause petition the Secretary for an alternative to CEMS.

6.3.b.2. CEMS, if required, shall be installed, operational and certified within twelve (12) months of the date of monitoring plan approval, within twelve (12) months of the receipt of denial of a petition under paragraph 6.3.b.1 or within twelve (12) months of triggering the 45 grains per 100 cubic feet threshold in subdivision 6.3.b, whichever is later.

6.3.c. CEMS shall be used to satisfy the requirements of an approved monitoring plan if any other rule, permit or order requires the use of CEMS for the combustion source(s). If not yet installed, the CEMS shall be installed by the date required in the other rule, permit or order.

6.4. An approved monitoring plan shall contain, at a minimum, the following:

6.4.a. A list of parameters to be monitored;

6.4.b. The monitoring method and frequency for each parameter to be monitored;

6.4.c. The compliance range for each parameter to be monitored;

6.4.d. An explanation of how the parameters to be monitored were chosen, and how they are indicative of compliance;

6.4.e. An explanation of how the compliance ranges were established;

6.4.f. A schedule for installation and operation of any additional monitoring equipment installed for purposes of complying with this rule, or a schedule for implementation of any additional procedure(s) required for purposes of complying with this rule;

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6.4.g. A response plan to be implemented during excursions; and

6.4.h. A proposed compliance testing schedule for manufacturing process source(s) and combustion source(s), as applicable.

6.5. Monitoring plans, pursuant to subdivisions 6.1.a, 6.2.a, and 6.3.a, shall be submitted to the Secretary for approval no later than February 28, 2001, as specified in paragraph 8.2.c.2 of 45CSR10.

6.5.a. Approval or denial of such plans shall be issued no later than August 31, 2001, or 6 months after submittal, whichever is later, as specified in paragraph 8.2.c.2 of 45CSR10, provided that the owner or operator may presume approval of a monitoring plan if the Secretary has neither approved nor denied the plan by the date specified in this subdivision.

6.5.b. Monitoring plans shall become effective upon approval.

6.6. In addition to other actions taken by the Secretary, the Secretary may require the monitoring plan to be revised when the Secretary has reason to believe that the ranges established for operating parameters in the monitoring plan are no longer indicative of compliance or when the Secretary has reason to believe that excursions are excessive.

6.7. Notwithstanding any other provisions of this rule, the Secretary reserves the right to require the installation of CEMS pursuant to subdivision 8.2.a of 45CSR10, in any case where the Secretary deems it necessary to determine compliance with the standards in 45CSR10.

§45-10A-7. Recordkeeping and Reporting Requirements.

7.1. Recordkeeping.

7.1.a. Fuel Burning Units. -- The owner or operator of a fuel burning unit(s) shall maintain records of the operating schedule and the quality and quantity of fuel burned in each unit. Such

records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis, and a periodic fuel quality analysis as set forth in the following table:

Fuel Quality	Frequency of Analysis
≥90% of Factor	Daily
< 90% of Factor	per shipment

7.1.a.1. The owner or operator shall provide in the monitoring plan a quality control and quality assurance program for the fuel analysis. If a certified independent lab is used to provide the fuel analysis, the quality control and assurance program is deemed to be satisfactory.

7.1.b. Combustion source(s). -- The owner or operator of a combustion source(s) shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each unit. Such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis, and a periodic fuel quality analysis. The frequency of periodic fuel quality analysis shall be established in an approved monitoring plan.

7.1.c. The owner or operator of a fuel burning unit or combustion source which utilizes CEMS shall be exempt from the provisions of subdivision 7.1.a or 7.1.b, as applicable.

7.1.d. For fuel burning units, manufacturing process sources, and combustion sources, records of all required monitoring data as established in an approved monitoring plan and support information shall be maintained on-site for a period of at least five (5) years from the date of monitoring, sampling, measurement or reporting. Support information includes all calibration and maintenance records and all strip chart recordings for continuous monitoring instrumentation, and copies of all required reports.

7.2. Exception Reporting.

7.2.a. CEMS. -- Each owner or operator

employing CEMS for an approved monitoring plan, shall submit a “CEMS Summary Report” and/or a “CEMS Excursion and Monitoring System Performance Report” to the Secretary quarterly; the Secretary may, on a case-by-case basis, require more frequent reporting if the Secretary deems it necessary to accurately assess the compliance status of the source. All reports shall be postmarked no later than forty-five (45) days following the end of each calendar quarter. The CEMS Summary Report shall contain the information and be in the format shown in Appendix A unless otherwise specified by the Secretary.

7.2.a.1. Submittal of 40 CFR Part 75 data in electronic data reporting (EDR) format to the Secretary shall be deemed to satisfy the requirements of subdivision 7.2.a.

7.2.a.2. If the total duration of excursions for the reporting period is less than four percent (4%) of the total source operating time for the reporting period and the total monitoring method downtime for the reporting period is less than five percent (5%) of the total source operating time for the reporting period, only the CEMS Summary Report shall be submitted; the CEMS Excursion and Monitoring System Performance report shall be maintained on-site and shall be submitted to the Secretary upon request.

7.2.a.3. If the total duration of excursions for the reporting period is four percent (4%) or greater of the total operating time for the reporting period or the total monitoring method downtime for the reporting period is five percent (5%) or greater of the total operating time for the reporting period, the CEMS Summary Report and the CEMS Excursion and Monitoring System Performance Report shall both be submitted to the Secretary.

7.2.a.4. The CEMS Excursion and Monitoring System Performance Report shall be in a format approved by the Secretary and shall include the following information:

7.2.a.4.A. The magnitude of each excursion, and the date and time, including starting and ending times, of each excursion;

7.2.a.4.B. Specific identification of each excursion that occurs during start-ups, shutdowns, and malfunctions of the facility;

7.2.a.4.C. The nature and cause of any malfunction (if known), and the corrective action taken and preventive measures adopted;

7.2.a.4.D. The date and time identifying each period during which quality-controlled monitoring data was unavailable, except for zero and span checks, and the reason for data unavailability and the nature of the repairs or adjustments to the monitoring system; and

7.2.a.4.E. When no excursions have occurred or there were no periods of quality-controlled data unavailability, and no monitoring systems were inoperative, repaired, or adjusted, such information shall be stated in the report.

7.2.b. Non-CEMS Based Monitoring. -- Each owner or operator employing monitoring pursuant to subsection 6.4 shall submit a “Monitoring Summary Report” and an “Excursion and Monitoring Plan Performance Report” to the Secretary on a quarterly basis, to the extent required under paragraphs 7.2.b.1 through 7.2.b.4; the Secretary may, on a case-by-case basis, require more frequent reporting if the Secretary deems it necessary to accurately assess the compliance status of the fuel burning unit(s). All reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter. The Monitoring Summary Report shall contain the information and be in a format approved by the Secretary.

7.2.b.1. If the total number of excursions for the reporting period is less than four percent (4%) of the total number of readings for the reporting period and the number of readings missing for the reporting period is less than five percent (5%) of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report shall be submitted to the Secretary; the Excursion and Monitoring Plan Performance Report shall be maintained on-site and shall be submitted to the Secretary upon request.

7.2.b.2. If the number of excursions for the reporting period is four percent (4%) or greater of the total number of readings for the reporting period or the number of readings missing for the reporting period is five percent (5%) or greater of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report and the Excursion and Monitoring Plan Performance Report shall both be submitted to the Secretary.

7.2.b.3. The Excursion and Monitoring Plan Performance Report shall be in the format specified in an approved monitoring plan and shall include, but not be limited to, the following information:

7.2.b.3.A. The magnitude of each excursion, and the date and time, including starting and ending times, of each excursion;

7.2.b.3.B. Specific identification of each excursion that occurs during start-ups, shutdowns, and malfunctions of the facility;

7.2.b.3.C. The nature and cause of any excursion (if known), and the corrective action taken and preventive measures adopted (if any);

7.2.b.3.D. The date and time identifying each period during when data is unavailable, and the reason for data unavailability and the corrective action taken; and

7.2.b.3.E. When no excursions have occurred or there were no periods of data unavailability, such information shall be stated in the report.

7.2.b.4. The Monitoring Summary Report and the Excursion and Monitoring Plan Performance Report described in subdivision 7.2.b shall not be required to be submitted for any manufacturing process source or combustion source where the only source of sulfur dioxide emissions results from the combustion of pipeline quality natural gas, wood or distillate oil, alone or in combination. The Secretary may also exempt any manufacturing process source or combustion source from the requirement to submit the two

reports referenced in this paragraph provided the Secretary is satisfied that sufficient information has been submitted to demonstrate the following:

7.2.b.4.A. The only source of sulfur dioxide emissions results from the combustion of fuel having a similar ratio of sulfur content to heating value as the other fuels mentioned in this paragraph;

7.2.b.4.B. Maximum emissions from the combustion of such fuel will be well below the applicable standard; and

7.2.b.4.C. Any other site-specific information identified by the Secretary has been addressed.

Appendix A - CEMS Summary Report

Pollutant	SO₂			
Company	_____			

Emission Limitation	Regulation	Limit	Units	Period
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Reporting Period: Calendar Quarter _____ to _____

Monitor Manufacturer: _____

Model Number: _____

Date of Last Certification or Audit: _____

Process Unit(s) Description: _____

Emissions Data Summary

1. Duration of excess emissions in reporting period due to:

a. Startup/Shutdown _____ hours

b. Malfunctions due to Control Equipment Problems _____ hours

c. Malfunctions due to Process Problems _____ hours

d. Other Known Causes _____ hours

e. Unknown Causes _____ hours

2. Total Duration _____ hours

3. Percent Excess Emissions _____ %

CEMS Performance Summary

1. CEMS Downtime in reporting period due to:

a. Monitor Equipment Malfunction _____ hours

b. Other Equipment Malfunction _____ hours

c. Quality Assurance Calibration _____ hours

d. Other Known Causes _____ hours

e. Unknown Causes _____ hours

2. Total CEMS Downtime _____ hours

3. Percent CEMS Downtime _____ %

% Downtime = 100 x (Total CEMS Downtime / Total Source Operating Time)

Please Note:

1. Separate Summary Reports are required for each process in the system when it has separate monitoring equipment.
2. Total source operating time means the total time which the affected source is operating, including all periods of start-up, shut-down, malfunction, or CEMS downtime as those times are defined under the rule.
3. All times for SO₂ emissions are to be reported in hours.
4. On a separate page describe any changes since the last reporting period to the CEMS process or controls.
5. Other reports may be necessary to meet requirements.

Appendix B -Registration

Table 1 - Sum of Design Heat Inputs for Similar Units					
Type 'a'		Type 'b'		Type 'c'	
(A) Unit ID	(B) DHI (mmBTU)	(C) Unit ID	(D) DHI (mmBTU)	(E) Unit ID	(F) DHI (mmBTU)
Sum of DHI for all Type 'a' units		Sum of DHI for all Type 'b' units		Sum of DHI for all Type 'c' units	

Table 2 - Weight Emission Limits for Similar Units			
(A)	(B) Total Design Heat Input (mmBTU)	(C) Factor from 45CSR10, Section 3 (lb/mmBTU)	(D) Weight Emission Rate (lb/hr) ^{1,2} [B * C = D]
Sum of DHI for all Type 'a' units			
Sum of DHI for all Type 'b' units			
Sum of DHI for all Type 'c' units			

Table 3 - Registration of Standard Individual Stack Emission Rates					
(A) Stack ID	(B) Identify each unit venting thru stack	(C) Sum of DHI for all units venting thru stack (mmBTU)	(D) Sum of DHI for all Similar Units (Table 2, Column B) (mmBTU)	(E) Wt. Emission Rate for all Similar Units (Table 2, Column D) (mmBTU)	(F) Stack Emission Rate (lb/hr) [(C/D) *E = F]
Sum of Standard Stack Allowable Emission Rates (lb/hr)					

The owner or operator may register individual stack allowable emission rates, differing from those calculated above, as provided for in 45CSR10, Subsection 3.4.

Table 4 - Registration of Alternative Stack Emission Rates		
(A) Stack ID	(B) Identify each unit venting thru stack	(C) Alternative Stack Emission Rate (lb/hr)
Sum of Alternative Stack Emission Rates (lb/hr)¹		

¹ The sum of the Alternative stack emission rates for similar units shall not exceed the weight emission rates for similar units in Table 2, Column D.