

45CSR2A

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

**SERIES 2A
TESTING, MONITORING, RECORDKEEPING AND REPORTING
REQUIREMENTS UNDER 45CSR2**

§45-2A-1. General.

1.1. Scope. -- Series 2A provides guidance and clarification for complying with the testing, monitoring, recordkeeping and reporting requirements of 45CSR2 - "To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers". 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 45CSR2.

1.3. Filing Date. -- February 13, 2001.

1.4. Effective Date. -- March 15, 2001.

§45-2A-2. Definitions.

2.1. "Alternative fuel" means a fuel other than pipeline quality natural gas, distillate oil, wood or coal.

2.2. "Continuous Opacity Monitoring System" or "COMS" means an opacity monitor and associated system installed, calibrated, operated and maintained as specified in 40 CFR Part 60, Appendix B, Performance Specification 1 (PS1) and 40 CFR Part 60, Appendix F or as specified in 40 CFR Part 75.

2.3. "Excursion" means: (1) measured emissions exceeding the applicable standards set forth in sections 3 and 4 of 45CSR2; 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 section 3 of 45 CSR2.

2.4. "Method 9 readings" means visible emissions tests conducted in accordance with 40 CFR Part 60, Appendix A, Method 9.

2.5. "Simultaneous" means that all compliance test runs for all similar fuel burning units at the plant are conducted within a seven (7) day period.

2.6. "Testing Cycle" means the frequency at which a fuel burning unit(s) is required to perform testing.

2.6.a. Cycle '1' means that testing shall be performed within twelve (12) months from the date of the previous test, but no earlier than six (6) months from the date of the previous test.

2.6.b. Cycle '2' means that testing shall be performed within twenty-four (24) months from the date of the previous test, but no earlier than twelve (12) months from the date of the previous test.

2.6.c. Cycle '3' means that testing shall be performed within thirty-six (36) months from the date of the previous test, but no earlier than eighteen (18) months from the date of the previous test.

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

§45-2A-3. Applicability.

3.1. This rule applies to any fuel burning unit(s) having a design heat input (DHI) over ten (10) million BTU/hr (mmBTU), except as follows:

3.1.a. The owner or operator of a fuel burning unit(s) which combusts only natural gas shall be exempt from sections 5 and 6. The Director reserves the right to require testing pursuant to subdivisions 8.1.b and 8.1.c. of 45CSR2.

3.1.b. The owner or operator of a fuel burning unit(s) with a DHI of less than 100 mmBTU/hr shall be exempt from the periodic testing requirements of section 5, and the monitoring requirements of section 6. The Director reserves the right to require testing pursuant to subdivisions 8.1.b. and 8.1.c. of 45CSR2.

§45-2A-4. Registration of Allowable Emission Rates for Individual Stacks.

4.1. The owner or operator shall conduct periodic simultaneous weight emission tests of all similar fuel burning units at each source, except where the owner or operator registers allowable emission rates for individual stacks in accordance with subsection 4.2 of this rule. The frequency and performance of periodic simultaneous weight emission tests shall conform to the provisions of subsection 5.2.

4.2. In accordance with subsection 4.2 of 45CSR2, the owner or operator may register an allowable emission rate for each individual stack, in pounds per hour, determined as provided in Appendix B.

§45-2A-5. Testing Requirements.

5.1. Visible Emission Testing.

5.1.a. The owner or operator shall periodically conduct or have conducted, visible emission tests to determine the compliance of each stack with the visual emission standard set forth in section 3 of 45CSR2. Visible emission tests shall be conducted in accordance with 40 CFR Part 60,

Appendix A, Method 9 (Method 9), or with COMS. Method 9 visible emission tests shall be conducted at a frequency established in the approved monitoring plan specified in subsection 6.3 and shall also be conducted in conjunction with all weight emission testing.

5.2. Weight Emission Testing.

5.2.a. The owner or operator shall periodically conduct or have conducted, weight emission tests to determine the compliance of each fuel stack with the weight emission standards set forth in section 4 of 45CSR2. Weight emission tests shall be conducted in accordance with 45CSR2 Appendix "Compliance Test Procedures for 45CSR2" or other equivalent EPA approved method approved by the Director. The baseline compliance test shall be conducted within a time period starting twelve (12) months prior to and ending twelve (12) months after the effective date of this interpretive rule for existing fuel burning unit(s) and within one hundred eighty (180) days of start-up for new fuel burning unit(s). The weight emission test results of the baseline test shall establish the weight emission testing cycle to be used for subsequent testing. Weight emission tests shall be conducted at a frequency established in the following tables:

Baseline Weight Emission Test Results	Resulting Testing Cycle
≤50% of weight emission standard	Cycle 3
between 50% and 80% of weight emission standard	Cycle 2
≥80% of weight emission standard	Cycle 1

Testing Cycle	Test Results	Retesting Cycle
Cycle 1	After three successive tests indicate mass emission rates $\leq 50\%$ of weight emission standard	Cycle 3
	After two successive tests indicate mass emission rates $< 80\%$ of weight emission standard	Cycle 2
	Any test indicates a mass emission rate $\geq 80\%$ of weight emission standard	Cycle 1
Cycle 2	After two successive tests indicate mass emission rates $\leq 50\%$ of weight emission standard	Cycle 3
	Any test indicates a mass emission rate $< 80\%$ of weight emission standard	Cycle 2
	Any test indicates a weight emission rates $\geq 80\%$ of weight emission standard	Cycle 1

Testing Cycle	Test Results	Retesting Cycle
Cycle 3	Any test indicates a mass emission rate $\leq 50\%$ of weight emission standard	Cycle 3
	Any test indicates a mass emission rate between 50% and 80% of weight emission standard	Cycle 2
	Any test indicates a mass emission rate $\geq 80\%$ of weight emission standard	Cycle 1

5.3. The Director reserves the right to require testing pursuant to subdivisions 8.1.b and 8.1.c. of 45CSR2.

§45-2A-6. Visible Emission Monitoring Plan Requirements.

6.1. The owner or operator of a fuel burning unit(s) shall submit to the Director for approval a monitoring plan that describes the method the owner or operator will use to monitor compliance with the visible emission standard set forth in section 3 of 45CSR2. The owner or operator of a fuel burning unit may use a COMS, which shall be deemed to satisfy all of the requirements of an approved monitoring plan, or a monitoring plan as specified in subsection 6.3, in accordance with the provisions of this section.

6.1.a. Monitoring plans shall be submitted to the Director for approval no later than February 28, 2001, as specified in paragraph 8.2.a.2 of 45CSR2.

6.1.b. 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.a.2 of 45CSR2, provided that the owner or operator may presume approval of a monitoring plan if the Director has

neither approved nor denied the plan by the date specified in this subdivision.

6.1.c. Monitoring plans shall become effective upon approval.

6.2. COMS Based Monitoring Plan.

6.2.a. The owner or operator of a fuel burning unit(s) with a DHI of 250 mmBTU/hr or greater shall use a COMS to satisfy the requirements of an approved monitoring plan, except where:

6.2.a.1. The source is able to demonstrate compliance with the applicable particulate matter and opacity standards without utilization of particulate matter control equipment. Such demonstration may include, but not be limited to, Method 9 readings, stack test data, AP-42 calculations, or other data as approved by the Director.

6.2.b. The Director may exempt a source from the requirements of subdivision 6.2.a if the Director determines that the installation of a COMS would not provide an accurate determination of emissions or that the installation of a COMS may not be implemented by a source due to physical source limitations or to extreme economic reasons. The Director shall require such an exempted source to fulfill alternative emission monitoring and reporting requirements.

6.2.c. COMS, if required, shall be installed, operational and certified within twelve (12) months of the date of monitoring plan approval.

6.3. Non-COMS Based Monitoring Plan.

6.3.a. For sources not utilizing COMS as the method of monitoring compliance with the opacity limit, the approved monitoring plan shall contain at a minimum the following requirements:

6.3.a.1. Provisions to take Method 9 readings a minimum of once per month per stack during months when the source operated at normal conditions for at least twenty-four (24) consecutive hours and weather/lighting conditions

were conducive to taking proper Method 9 readings;

6.3.a.2. a list of operating parameters to be monitored;

6.3.a.3. the monitoring method and frequency for each operating parameter to be monitored;

6.3.a.4. the nominal range for each operating parameter to be monitored;

6.3.a.5. an explanation of how the operating parameters to be monitored were chosen, and how they are indicative of compliance;

6.3.a.6. an explanation of how the nominal ranges were established;

6.3.a.7. a schedule for installation and operation of any additional monitoring equipment to be installed for purposes of complying with this rule; and

6.3.a.8. a response plan to be implemented during excursions which shall include, but not be limited to, the following:

6.3.a.8.A. for excursions of any operating parameter exceeding one hour, the owner or operator shall perform Method 9 readings for a minimum of six (6) minutes for each hour during the excursion. Such Method 9 readings shall continue each hour until four (4) successive six-minute observations demonstrate compliance.

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

6.5. Notwithstanding any other provisions of this rule, the Director reserves the right to require the installation of COMS pursuant to subsection

3.2 of 45CSR2, in any case where the Director deems it necessary to determine compliance with the standards in 45CSR2.

§45-2A-7. Recordkeeping and Reporting Requirements.

7.1. Recordkeeping.

7.1.a. 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 fuel burning unit as specified in paragraphs 7.1.a.1 through 7.1.a.6, as applicable.

7.1.a.1. For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.

7.1.a.2. For fuel burning unit(s) which burn only distillate oil, 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 monthly basis and a BTU analysis for each shipment.

7.1.a.3. For fuel burning unit(s) which burn only wood, 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 quarterly ash and BTU analysis.

7.1.a.4. For fuel burning unit(s) which burn only coal, 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 an ash and BTU analysis for each shipment.

7.1.a.5. For fuel burning unit(s) which burn an alternative fuel(s), such records shall include, but not be limited to, the date and time of start-up and shutdown, and fuel quality analysis as approved by the Director.

7.1.a.6. For fuel burning unit(s) which burn a combination of fuels, the owner or operator shall comply with the applicable

recordkeeping requirements of paragraph 7.1.a.1 through paragraph 7.1.a.5. for each fuel burned.

7.1.b. Records of all required monitoring data 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. With respect to excursions associated with measured emissions under Section 4 of 45CSR2, compliance with the reporting and testing requirements under the Appendix to 45CSR2 shall fulfill the requirement for a periodic exception report under subdivision 8.3.b of 45CSR2.

7.2.b. COMS Based Monitoring - In accordance with the provisions of this subdivision, each owner or operator employing COMS as the method of monitoring compliance with opacity limits shall submit a "COMS Summary Report" and/or an "Excursion and COMS Monitoring System Performance Report" to the Director on a quarterly basis; the Director may, on a case-by-case basis, require more frequent reporting if the Director 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 COMS Summary Report shall contain the information and be in the format shown in Appendix A unless otherwise specified by the Director.

7.2.b.1. If the total duration of excursions for the reporting period is less than one percent (1%) of the total operating time for the reporting period and monitoring system downtime for the reporting period is less than five percent (5%) of the total operating time for the reporting period, the COMS Summary Report shall be submitted to the Director; the Excursion and COMS Monitoring System Performance report shall be maintained on-site and shall be submitted

to the Director upon request.

7.2.b.2. If the total duration of excursions for the reporting period is one percent (1%) or greater of the total operating time for the reporting period or the total monitoring system downtime for the reporting period is five percent (5%) or greater of the total operating time for the reporting period, the COMS Summary Report and the Excursion and COMS Monitoring System Performance Report shall both be submitted to the Director.

7.2.b.3. The Excursion and COMS Monitoring System Performance Report shall be in a format approved by the Director 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 preventative measures adopted (if any);

7.2.b.3.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.b.3.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.c. Non-COMS Based Monitoring - Each owner or operator employing non-COMS based monitoring shall submit a "Monitoring Summary Report" and/or an "Excursion and Monitoring Plan Performance Report" to the Director on a quarterly basis; the Director may,

on a case-by-case basis, require more frequent reporting if the Director 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 be in a format approved by the Director.

7.2.c.1. If the total number of excursions for the reporting period is less than one percent (1%) 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 Director; the Excursion and Monitoring System Performance report shall be maintained on-site and shall be submitted to the Director upon request.

7.2.c.2. If the number of excursions for the reporting period is one percent (1%) 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 Director.

7.2.c.3. The Excursion and Monitoring Plan Performance Report shall be in a format approved by the Director and shall include, but not be limited to, the following information:

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

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

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

7.2.c.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.c.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.d. To the extent that an excursion is due to a malfunction, the reporting requirements in section 9 of 45CSR2 shall be followed.

Appendix A - COMS Summary Report

Pollutant	Opacity			
Company	_____			

Emission Limitation	Regulation	Limit	Units	Period
	45 CSR 2	10	%	6 minute average
Total Source Operating Time				minutes

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. Start/up	_____	minutes
b. Soot Blowing	_____	minutes
c. Malfunctions due to Control Equipment Problems	_____	minutes
d. Malfunctions due to Process Problems	_____	minutes
e. Other Known Causes	_____	minutes
f. Unknown Causes	_____	minutes
2. Total Duration _____ minutes
3. Percent Excess Emissions _____ %

% Excess Emissions = 100 * (Total Duration / Total source Operating Time)

COMS Performance Summary

1. COMS Downtime in reporting period due to:

a. Monitor Equipment Malfunction	_____	minutes
b. Other Equipment Malfunction	_____	minutes
c. Quality Assurance Calibration	_____	minutes
d. Other Known Causes	_____	minutes
e. Unknown Causes	_____	minutes
2. Total COMS Downtime _____ minutes
3. Percent COMS Downtime _____ %

% Downtime = 100 * (Total COMS Downtime / Total Source Operating Time)

Please Note:

1. Separate Summary Reports are required for each boiler 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, soot blowing or COMS downtime as those times are defined under the rule.
3. All times for opacity are to be reported in minutes.
4. On a separate page describe any changes since the last reporting period to the COMS 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/hr)	(C) Unit ID	(D) DHI (mmBTU/hr)	(E) Unit ID	(F) DHI (mmBTU/hr)
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/hr)	(C) Factor from 45CSR2, Subsection 4.1 (lb/mmBTU)	(D) Weight Emission Rate (lb/hr)^{1,2}
Sum of DHI for all Type 'a' units		.05	
Sum of DHI for all Type 'b' units		.09	
Sum of DHI for all Type 'c' units		N/A, look up lb/hr limit in 45CSR2, Table 45-2	

¹ If the calculated weight emission limit for Type 'a' units is greater than 1200 lbs/hr, then 1200 lbs/hr is the limit.

² If the calculated weight emission limit for Type 'b' units is greater than 600 lbs/hr, then 600 lbs/hr is the limit.

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

In Table 4 below, the owner or operator may register individual stack allowable emission rates, differing from those calculated above, as provided for in 45CSR2, subsection 4.2.

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 all Similar Units in Table 2, Column D.