LEGISLATIVE FORMAT

Chapter 117: SOURCE SURVEILLANCE – EMISSIONS MONITORING

SUMMARY: This regulation specifies which emission units are required to operate continuous emission monitoring systems (CEMS); and details the performance specifications, quality assurance requirements and quality control procedures for such systems, and associated record keeping and reporting requirements.

1. Scope and Applicability

A. This regulation applies statewide.

B. The owner or operator of any of the following emission units shall install, certify, calibrate, operate, maintain, and perform system audits on the continuous emission monitoring systems (CEMS) for regulated pollutants as specified in this Chapter.

(1) Fuel-burning equipment with a heat input capacity of greater than 100 million British Thermal Units (BTU) per hour shall continuously monitor for opacity, except when:

(a) Gaseous fuel is the only fuel burned; or

(b) The annual average capacity factor for any non-gaseous fuel or combination of non-gaseous fuels burned in the emissions unit is demonstrated to be less than 30% and is limited to such by a federally enforceable license condition.

(2) Fuel-burning equipment with a heat input capacity of greater than 200 million BTU per hour shall continuously monitor for nitrogen oxides unless the owner or operator demonstrates that the annual average capacity factor is less than 30%, is projected to remain at less than 30% and is limited to such by a federally enforceable license condition.

(3) Any emissions unit required by statute, regulation, license condition, or other Departmental action to continuously monitor for any regulated pollutant unless determined to be exempt from some or all of the requirements of this Chapter by the Department pursuant to subsection (1)(C) of this Rule.

(4) Any emissions unit subject to 40 CFR Part 60 New Source Performance Standards, 40 CFR Parts 61 or 63 National Emission Standards for Hazardous Air Pollutants, or 40 CFR Part 75 Acid Rain Program regulations, which require the installation and operation of CEMS to demonstrate compliance with a specified opacity or emission limit.

(5) Any emissions unit whose potential to emit is limited by federally enforceable license conditions which restrict its hours of operation or operating configuration, type or amount of material combusted, stored, or processed, or level of production, and for which the Department determines that CEMS are necessary to demonstrate compliance with these license conditions pursuant to subsection (1)(C) of this Rule.

(6) Any emissions unit that utilizes air pollution control equipment in order to maintain compliance with an opacity or emission limit and the Department determines through the licensing process that a CEMS is necessary to demonstrate compliance with such limit.

(7) Any emissions unit which the Department has determined through the licensing process has a significant impact on air quality and for which a CEMS is necessary to demonstrate that the ambient air quality standards are achieved and maintained.

(8) Any emissions unit from which a documented violation of any applicable opacity or emission limit has occurred and for which the Department determines through the licensing process that a CEMS is appropriate.

(9) Fuel-burning equipment which is required to measure sulfur dioxide, carbon monoxide, total reduced sulfur, ammonia, nitrogen oxides, or other gaseous pollutants pursuant to this Chapter shall continuously monitor for either percent oxygen or percent carbon dioxide when needed to quantify emissions at a standard condition.

C. Limited Exemptions.

(1) The Department may on a case by case basis allow compliance with this Chapter through provisions under 40 CFR Part 51, Appendix P, Section 6. In such cases the Department shall determine alternative emission monitoring and reporting requirements (e.g., periodic stack tests) to satisfy the intent of this Chapter through an amendment to the air emission license. Examples of such special cases include, but are not limited to, the following:

(a) When installation of a CEMS would not provide accurate determinations of emissions (for example, condensed, uncombined water vapor may prevent an accurate determination of opacity);

(b) When the annual average capacity factor for the affected emissions unit is less than 30% and is restricted by license condition to remain at less than 30%;

(c) When the Department determines that the requirements would impose an extreme economic burden on the source owner or operator; or

(d) When the Department determines that the CEMS cannot be installed due to physical limitations at the facility.

(2) Lime kilns shall not be required to continuously monitor for sulfur dioxide.

(3) Fuel-burning equipment controlled by wet scrubbers approved by the Department shall not be required to continuously monitor for opacity unless such equipment is required to continuously monitor for opacity by 40 CFR Part 60 New Source Performance Standards.

NOTE: Emissions monitoring and reporting requirements under federal law may, in some cases, be more stringent than the requirements of this Chapter and Title 38 MRSA § 589(3).

---

2. Definitions

The following terms, as used in this Chapter, have the following meanings.

064

A. **Absolute Correlation Audit or ACA.** "Absolute Correlation Audit" or "ACA" means an evaluation of a PM CEMS response to a series of reference standards covering the full measurement range of the instrument.

B. **Analyzer.** "Analyzer" means that portion of the CEMS that:

(1) Senses the pollutant gas and generates an output proportional to the gas concentration, or

(2) Senses the pollutant and generates an output that is a function of opacity, or

(3) Senses the pollutant and generates an output proportional to the particulate matter concentration.

C. **Annual average capacity factor.** "Annual average capacity factor" means the ratio between the actual heat input to an emissions unit from fuels during a calendar year, and the potential heat input to the emissions unit had it been operating for one year at the maximum steady state design heat input capacity.

D. **Calibration attenuators.** "Calibration attenuators" consist of a minimum of three filters or screens with neutral spectral characteristics selected and calibrated according to 40 CFR Part 60, Appendix B, and of sufficient size to attenuate the entire light beam received by the detector of the transmissometer (that portion of the CEMS which includes the sample interface and the analyzer).

E. **Calibration drift.** "Calibration drift" means the difference in the CEMS' output reading from the established reference value after a stated period of normal continuous operation during which no unscheduled maintenance, repair or adjustment took place. ~~This test is required daily~~. The reference value may be supplied by cylinder gas, gas cell, optical filter, or electronic signal as approved by the Department.

F. **Continuous Emission Monitoring System or CEMS.** "Continuous Emission Monitoring System" or "CEMS" means the total equipment required for the determination of a gas concentration or pollutant emission rate or opacity reading, including,the associated data recording equipment (such as strip chart, computer disk, magnetic tape, etc.).

G. **Continuous Emission Rate Monitoring System or CERMS.** "Continuous Emission Rate Monitoring System" or "CERMS" means the total equipment required for the determination of pollutant mass emission rate (in terms of mass per unit of time), including the associated data recording equipment (such as strip chart, computer disk, magnetic tape, etc.). A CERMS is a subset of a CEMS.

H. **Continuous Opacity Monitoring System or COMS.** "Continuous Opacity Monitoring System" or "COMS" means the total equipment required for the determination of opacity emissions, including the associated data recording equipment (such as strip chart, computer disk, magnetic tape, etc.). A COMS is a subset of a CEMS.

I. **Correlation Range.** "Correlation Range" means the range of PM CEMS responses used in the complete set of correlation test data.

J. **Data recorder.** "Data recorder" means that portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may include automatic data reduction capabilities.

K. **Gaseous Continuous Emission Monitoring System or Gaseous CEMS.** "Gaseous Continuous Emission Monitoring System" or "Gaseous CEMS" means the total equipment required for the determination of a gas concentration, including the associated data recording equipment (i.e., strip chart, computer disk, magnetic tape, etc.). A Gaseous CEMS is a subset of a CEMS.

L. **Gaseous excess emission.** "Gaseous excess emission" means any period during which an emissions unit is operating and the average gaseous emissions as measured by the CEMS or appropriate EPA reference method test exceed the applicable emission standard over the applicable averaging period and the data was not deemed to be invalid. This does not include periods of start up, shutdown and unavoidable malfunction determined to be exempt by the Department.

M. **Gaseous fuel.** "Gaseous fuel" includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas liquefied petroleum gas, and biogas. Blast furnace gas is exempt from this definition.

N. **Opacity excess emission.** "Opacity excess emission" means any period during which an emissions unit is operating and opacity as measured by the COMS or appropriate EPA reference method test exceeds the applicable opacity standard over the applicable averaging period and the data was not deemed to be invalid. This does not include periods of start up, shutdown and unavoidable malfunction determined to be exempt by the Department.

O. **Out-of-control period.** "Out-of-control period" means the period of time when a source is operating during which a CEMS is considered to be recording invalid data. This time period is considered CEMS downtime by the Department.

P. **Particulate matter excess emission.** "Particulate matter excess emission" means any period during which an emissions unit is operating and the average emissions as measured by the PM CEMS or EPA reference method test exceeds the applicable emission standard over the applicable averaging period and the data was not deemed to be invalid. This does not include periods of start up, shutdown and unavoidable malfunction determined to be exempt by the Department.

Q. **PM CEMS Correlation.** "PM CEMS Correlation" means the site-specific relationship (*i.e.*, a regression equation) between the output from the PM CEMS (such as mA) and the particulate concentration, as determined by the reference method. The PM CEMS correlation is expressed in the same units as the PM concentration measured by the PM CEMS (such as mg/acm). This relation is derived from PM CEMS response data and manual reference method data that were gathered simultaneously. These data must be representative of the full range of source and control device operating conditions that are expected to occur. The correlation must be developed by performing the steps presented in 40 CFR Part 60, Appendix B, Sections 12.2 and 12.3 of PS–11.

R. **Quality assurance plan or QA plan**. "Quality assurance plan" or "QA plan" means a management program designed to ensure that quality control (QC) activities are being performed.

It is the written documentation of what the QA program proposes to accomplish and the QC procedures that are to be followed within the program. An established QA plan is that source specific written documentation of the proposed QA program and the QC procedures as required by subsection (4) (B) of this chapter and which reflects the effective date on each page of the document.

S. **Quality control procedures or QC procedures.** "Quality control procedures" or "QC procedures" means the specific maintenance and monitoring steps performed on a routine basis, including but not limited to daily calibration checks, routine filter replacements and cylinder gas audits. Established QC procedures are the written steps for performing specific maintenance and monitoring procedures completed on a routine basis, as required by subsection 4(B) of this Chapter and which reflects the effective date on each page of the QC procedures.

T. **Reference method sampling location.** "Reference Method Sampling Location" when used in regards to PM CEMS means the location in the source's exhaust duct from which manual reference method data is collected for developing the PM CEMS correlation and for performing relative response audits (RRAs) and response correlation audits (RCAs).

U. **Relative accuracy.** "Relative accuracy" means the difference between the value determined by a CEMS and a reference value described in 40 CFR, Part 60, Appendix F, Section 6.

V. **Relative Response Audit or RRA.** "Relative Response Audit" or "RRA" means the brief series of tests specified in 40 CFR Part 60, Appendix F, Section 10.3(6), that are conducted between consecutive RCAs to ensure the continued validity of the PM CEMS correlation.

W. **Response Correlation Audit or RCA.** "Response Correlation Audit" or "RCA" means the series of tests specified in 40 CFR Part 60, Appendix F Section 10.3(8), which are conducted to ensure the continued validity of the PM CEMS correlation.

X. **Sample interface**. "Sample interface" means that portion of the CEMS:

(1) that is used for one or more of the following: sample acquisitions, sample transportation, and sample conditioning, or protection of the monitor from the effects of the stack effluent; or

(2) that protects the analyzer from the effects of the stack effluent and aids in keeping the optical surfaces clean.

Y. **Sample Volume Audit or SVA.** "Sample Volume Audit" or "SVA" means an evaluation of the Particulate Matter (PM) CEMS measurement of sample volume if the PM CEMS determines PM concentration based on a measure of PM mass in an extracted sample volume and an independent determination of sample volume.

Z. Source Operating Time. "Source operating time" means the amount of time that an emissions unit is combusting fuel or processing material.

AA. **Span value.** "Span value" means:

(1) The upper limit of a gas concentration measurement range as specified in the source's Quality Control (QC) plan; or

(2) The opacity value at which the COMS is set to produce the maximum data display as specified in the source's QC plan.

~~AA.~~ AB. **Unavoidable malfunction.** "Unavoidable malfunction" means a malfunction resulting from the failure of one or more of the following CEMS components, which results exclusively from circumstances beyond the control of the owner or operator:

~~(1) Transmissometer;~~
~~(2) Sampling probe;~~
~~(3) Sampling line;~~
~~(4) Analyzer;~~
~~(5) Data Acquisition System;~~
~~(6) Conditioning System; or~~
~~(7) Power Supply.~~

In order to be considered an "unavoidable malfunction" the owner or operator must also have taken every reasonable available measure to minimize the duration of the CEMS downtime, and the unavoidable malfunction can not have been caused, entirely or in part, by poor maintenance, careless operation, poor design, or other reasonably preventable condition. The burden of proof is on the owner or operator to demonstrate that the failure of the CEMS to record accurate and reliable data was due to an unavoidable malfunction.

A~~B~~C. **Unit operating day.** "Unit operating day" means any calendar day (or fraction of a day) that an emissions unit is in operation.

A~~C~~D. **Unit operating hour.** "Unit operating hour" means any hour (or fraction of an hour) that an emissions unit is in operation.

3. **Performance Specifications for Continuous Emissions Monitoring Systems**

A. The source owner or operator shall operate the CEMS and record accurate data in the units of the applicable standard ~~at all times the associated emissions unit is in operation~~during all source operating times, except for periods when the CEMS is subject to established quality assurance and quality control procedures or during periods of unavoidable malfunction. Any emissions data collected during periods when an emissions unit is not operating, shall not be used in determining compliance with any emission limit.

B. Any CEMS installed pursuant to this Chapter shall meet the performance specifications set forth in 40 CFR Part 60, Appendix B, 40 CFR Part 75 and comply with applicable specifications and provisions of 40 CFR Part 60, Appendix B, regarding monitor location, calibration and interpretation of results. Data used for calculating excess emissions shall not include data substitution using the missing data procedures of 40 CFR Part 75; nor shall the data have been bias adjusted according to the procedures of 40 CFR Part 75. Missing data shall be reported as downtime for the purposes of this Chapter.

C. For a CEMS installed pursuant to this Chapter, the following minimum specifications apply unless otherwise specified by federal regulation.

(1) The minimum specifications described in 40 CFR Part 60, Appendix B are incorporated herein by reference.

(2) A CERMS or gaseous CEMS shall record and report valid data as follows:

(a) A CEMS must complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each of the four successive 15-minute quadrants of the hour (starting at the top of the clock hour), except during hours where scheduled QA is being performed. A minimum of one data point in at least three of the four distinct 15-minute quadrants constitutes a valid hour. During periods of scheduled QA a minimum of one data point in at least two of the four distinct 15-minute quadrants constitutes a valid hour.

(b) A gaseous CEMS and CERMS must average and record the data in a manner consistent with the applicable emission standard~~;~~. Data need not be recorded for a particular time period if the emissions unit did not operate during that time period.

(i) A three-hour block average will be considered valid if it contains at least 2 valid hourly averages.

(ii) A four-hour block average will be considered valid if it contains at least 3 valid hourly averages.

(iii) A six-hour block average will be considered valid if it contains at least 4 valid hourly averages.

(iv) A twelve-hour block average will be considered valid if it contains at least 9 valid hourly averages.

(v) A twenty-four-hour average will be considered valid if it contains at least 18 valid hourly averages.

(vi) A thirty-day rolling average shall be calculated as described in 40 CFR Part 60, Method 19, equation 19-19. Simply stated that means: the sum of the (valid) block hour values monitored for the last 30 emissions unit operating days divided by the sum of the number of (valid) block hours monitored for the past 30 emissions unit operating days.

(3) A CEMS for measuring opacity, particulate matter or gaseous emissions shall have the capability of displaying instantaneous values of the appropriate output for use during audits. Audit readings should be taken from the normal data recording equipment if practical.

(4) A COMS used to determine compliance with applicable opacity standards shall average data to result in one or six-minute averages (starting at the top of the clock hour), as approved by the Department and EPA. A valid six-minute average requires four valid minutes of data. A valid minute consists of a minimum of a sample point in four of the six distinct 10 (ten) second blocks or 67 percent of the minute.

(5) A PM CEMS shall average data as approved by the Department and EPA.

D. Out-of-Control Period Determinations

(1) A gaseous CEMS is out-of-control when:

(a) The calibration drift exceeds two times the applicable performance specification drift limit contained in 40 CFR Part 60, Appendix B, for five consecutive days;

(b) The calibration drift exceeds four times the applicable performance specification drift limit contained in 40 CFR Part 60, Appendix B, on any one day; or

(c) The CEMS fails a Relative Accuracy Test Audit, Relative Accuracy Audit, or Cylinder Gas Audit.

The beginning of the out-of-control period is the time corresponding to the completion of the fifth consecutive, daily calibration drift check with a calibration drift in excess of two times the allowable limit, or the time corresponding to the completion of the daily calibration drift check preceding the daily calibration drift check that results in a calibration drift in excess of four times the allowable limit, or the time corresponding to the completion of a Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or cylinder gas audit (CGA) where the CEMS fails the applicable accuracy criteria.

The end of the out-of-control period is the time corresponding to the completion of the calibration drift check following corrective action that results in the calibration drifts at both the zero (or low-level) and high-level measurement points being within the corresponding allowable calibration drift limits, or the time corresponding to the completion of the sampling of the subsequent successful RATA, RAA, or CGA. A RATA must always be used following an out-of-control period resulting from a failed RATA.

(d) If a source's CEMS is also subject to the requirements in 40 CFR Part 75 then the source may use the procedures outlined in Part 75, Appendices A and B instead of the procedures above to determine out-of-control periods for that CEMS.

(2) A COMS is out-of-control when:

(a) The calibration drift (either zero or upscale) exceeds 2% opacity for five consecutive days;

(b) The calibration drift (either zero or upscale) exceeds 4% opacity on any one day; or

(c) The COMS fails a performance audit.

The beginning of the out-of-control period is the time corresponding to the completion of the fifth consecutive daily calibration drift check with a calibration drift in excess of 2%, or the time corresponding to the completion of the daily calibration drift check preceding the daily calibration drift check that results in a calibration drift in excess of 4%, or the time corresponding to the completion of the performance audit indicating unacceptable performance.

The end of the out-of-control period is the time corresponding to the completion of appropriate adjustment and calibration drift assessment, or the time corresponding to the completion of appropriate corrective actions and subsequent successful audit. A

performance audit must always be used following an out-of-control period resulting from a failed performance audit.

(3) A CERMS is out-of-control when:

(a) The calibration drift for either the flow or concentration portion of the system exceeds two times the applicable performance specification drift limit contained in 40 CFR Part 60, Appendix B, for five consecutive days;

(b) The calibration drift for either the flow or concentration portion of the system exceeds four times the applicable performance specification drift limit contained in 40 CFR Part 60, Appendix B, on any one day; or

(c) The CERMS fails a Relative Accuracy Test Audit, Relative Accuracy Audit, or Cylinder Gas Audit.

The beginning of the out-of-control period is the time corresponding to the completion of the fifth consecutive, daily calibration drift check with a calibration drift in excess of two times the allowable limit, or the time corresponding to the completion of the daily calibration drift check preceding the daily calibration drift check that results in a calibration drift in excess of four times the allowable limit, or the time corresponding to the completion of a Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or cylinder gas audit (CGA) where the CERMS fails the applicable accuracy criteria.

The end of the out-of-control period is the time corresponding to the completion of the calibration drift check following corrective action that results in the calibration drifts at both the zero (or low-level) and high-level measurement points being within the corresponding allowable calibration drift limits, or the time corresponding to the completion of the sampling of the subsequent successful RATA, RAA, or CGA. A RATA must always be used following an out-of-control period resulting from a failed RATA.

(d) If a source's CERMS is also subject to the requirements in 40 CFR Part 75 then the source may use the procedures outlined in 40 CFR Part 75, Appendices A and B instead of the procedures above to determine out-of-control periods for that CERMS.

(4) A PM CEMS is out-of-control when:

(a) The daily calibration drift (zero or upscale) exceeds 4% for five consecutive daily periods or exceeds 8% for any one day;

(b) The daily calibration drift for sample volume check exceeds 10% for five consecutive daily periods or exceeds 20% for any one day;

(c) The ACA (Absolute Correlation Audit) exceeds 10% of the average audit value or 7.5% of the applicable standard, whichever is greater;

(d) The SVA (Sample Volume Audit) exceeds 5% of the average sample volume audit value;

(e) The RCA (Response Correlation Audit) response value for any of the 12 points is greater than the greatest PM CEMS response value used to develop the correlation curve;

(f) The RCA response value for less than 9 of the 12 points lie within the PM CEMS output range used to develop the correlation curve;

(g) The RCA response values and reference method measurements do not fall within a specified area on a graph of the correlation regression line for 75% of the data sets. The specified area on the graph of the correlation regression line is defined by two lines parallel to the correlation regression line, offset at a distance of +/- 25% of the numerical emission limit value from the correlation regression line;

(h) The RRA (Relative Response Audit) response value for any of the 3 points is greater than the greatest PM CEMS response value used to develop the correlation curve;

(i) The RRA response value for 2 of the 3 points lie outside the PM CEMS output range used to develop the correlation curve; or

(j) The RRA response values and reference method measurements do not fall within a specified area on a graph of the correlation regression line for 2 of the 3 data sets. The specified area on the graph of the correlation regression line is defined by two lines parallel to the correlation regression line, offset at a distance of +/- 25% of the numerical emission limit value from the correlation regression line.

(k) The beginning of the out-of-control period is the time corresponding to the completion of a failed drift check, RCA, RRA, ACA, SVA or sample volume check. The end of the out-of-control period is the time corresponding to the completion of appropriate adjustment and calibration drift assessment, or the time corresponding to the completion of appropriate corrective actions and subsequent successful audit. A performance audit must always be used following an out-of-control period resulting from a failed performance audit.

NOTE: Section 3(C) defines whether data is considered "valid" for purposes of determining compliance with applicable emissions limits. By contrast, any data recorded by a CEMS that is valid may be considered in determining CEMS uptime.

---

4. Quality Assurance/Quality Control Requirements.

A. Initial and replacement performance specification testing for a CEMS shall be conducted as follows.

(1) For a CEMS, either the performance specification testing in 40 CFR Part 60, Appendix B or 40 CFR Part 75 applies.

(2) For a CERMS, either the performance specifications of 40 CFR Part 60, Appendix B, Specification 6 or 40 CFR Part 75 Appendix A applies.

072

(3) All performance specification testing shall be performed within 180 days of the CEMS initial installation. For a facility using a CEMS:

(a) Like-kind replacement analyzers can be used to serve as a backup for a certified analyzer, for up to a 720 hour period of interim monitoring per calendar year without having to meet the Part 60 initial certification requirements. A like-kind replacement analyzer is defined as the same make and model (regardless of series identification) as the analyzer it is replacing. This analyzer would use the same probe and sample interface as the certified CEM.

In order for the data to be considered valid the analyzer must pass a Cylinder Gas Audit (CGA) prior to each use as required in 40 CFR Part 60, Appendix F after the analyzer is installed in the monitoring location. It also must comply with the daily QC requirements of 40 CFR Part 60, Appendix B. If after 720 hours the like-kind replacement analyzer isn't certified, then the emissions data collected beyond that point is considered invalid. The like-kind replacement analyzers may not be used to report data at the affected unit or stack for more than 720 hours in a 12 month period, unless the CEMS passes all certification procedures at the installed location.

(b) Replacement analyzers that are not like-kind, require performance specification testing that must be completed within 30 days of being installed. This grace period may not be utilized more than once every 12 month period for any particular analyzer. ~~at each emissions unit for the same analyzer~~. ~~Replacement of a probe would initiate the performance specification testing requirement.~~

(c) Performance specification testing must be conducted within 90 days of a CEMS replacement installation if the emissions unit has been inoperative for 12 or more consecutive months.

(d) Continuous EPA reference method testing is allowed as an alternative to performing the specification testing.

(4) Written summaries of test results must be submitted to the Department within thirty (30) days of the completion of the test. If specific EPA reference method reporting deadlines allow longer, this Chapter defers to the EPA deadline. If any of the options of Section 4(A) (3) (a), (b), (c) or (d) of this Chapter are used, the Bureau must be notified in writing within 48 hours. This information shall also be included in the quarterly report along with the number of hours that the option has been used.

B. A CEMS is subject to the following audit requirements.

(1) QA Plan. Each source owner or operator shall develop and maintain a copy of its written procedures, henceforth known as the QA program for implementing its quality control procedures for each CEMS within six (6) months of the initial startup of each CEMS installed. The owner or operator shall keep a complete copy of its QA plan including updates in a readily accessible location for a period of at least six years and shall make these records available to the Department and EPA upon verbal or written request.

(2) Annual QA Program Review. Each source owner or operator shall review the QA plan and all data generated by its implementation at least once each year and revise or update the QA

program, as necessary, based on the results of the annual review. The revised QA program must be available for on-site review by the Department and EPA at any time.

(3) Revisions to QA Plan. The Department may request revision of the QA program at any time based on the results of emission report reviews, inspections, audits, review of the QC procedures, or any other information available to the Department and EPA.

(4) Quarterly Reporting of Out-of-Control Periods. Pursuant to Section 7 of this Chapter, the Department shall be informed in the quarterly reports of all out-of-control periods, as defined in Section (2)(O) of this Chapter. This includes out-of-control periods as the result of the CD, CGA, RATA, RAA, quarterly audit, ACA, SVA, RCA, or RRA tests.

(5) QA/QC Procedures Specific to CEMS Monitoring of Commonly Monitored Gaseous Emissions. For a CEMS monitoring gaseous emissions of sulfur dioxide, nitrogen oxides, carbon monoxide, total reduced sulfur, ammonia, volatile organic compounds, oxygen, or carbon dioxide, the quality assurance requirements and procedures described in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B, as applicable shall apply. All requirements specified in 40 CFR Part 60, Procedure 1 of Appendix F or 40 CFR Part 75, Appendix B, as applicable, shall be met with the following clarifications:

(a) CEMS Calibration Drift Test Requirements. A calibration drift test must be conducted while the source is in operation. It must be passed at two concentration values daily. After the initial performance demonstration, an off-line CD test may be used to validate data if it is followed within 26 hours by an on-line CD test. To be considered acceptable; neither the on-line nor the off-line CD test is allowed any unscheduled adjustment in between the two tests. The test may not result in an out-of-control specification. (Monitor adjustment is allowed immediately after a CD test.)

If a source fails to conduct and pass the required daily calibration drift test, then the data is considered invalid starting at the end of that day and until a passing test is completed. There is a grace period allowed if the daily calibration drift test is missed due to an emissions unit outage. In this case the data can be considered valid if a passing daily calibration drift test is performed within the first eight hours of operation in the next unit operating day.

Units using multiple span monitors must perform the CD testing on all ranges that are reasonably expected to be used during that unit operation day.

(b) CEMS Cylinder Gas Audit Requirements. The source owner or operator shall conduct and pass Cylinder Gas Audits (CGA) every calendar quarter that a RAA or RATA is not conducted. The audit must be conducted while the source is in operation unless the Department waives this requirement.

~~If an emission unit has not operated for at least 168 unit operating hours during a calendar quarter, then the CGA (test) may be postponed until a quarter in which this threshold is exceeded. If four successive calendar quarters elapse without a CGA Certification Test, the owner or operator is allowed a maximum 168 unit operating hour grace period in which to perform the audit. Otherwise, the CEMS data will be invalidated until such time when a successful RATA, RAA or CGA can be conducted.~~

074

~~Written notification to the Department of a CGA scheduled event is required. Verbal notification of a CGA or Linearity Test is required at least 10 calendar days prior to the testing and shall permit the Department to observe the testing.~~

If during a calendar quarter the emission unit has not operated for at least 168 unit operating hours, then the CGA may be postponed until a quarter that exceeds the 168 unit operating hour threshold. After four successive calendar quarters have elapsed without a CGA then the operator has a grace period of 168 unit operating hours in which to perform a successful audit or the data from the CEMS will be invalid from that point until a successful RATA, RAA or CGA can be conducted.

The Department may require written notification of the CGA scheduled date at any time. Unless waived by the Department, the source owner or operator shall provide verbal notification to the Department of the date of the CGA or linearity test ten (10 calendar) days prior to the testing and shall permit the Department to observe the testing;

Units using multiple span monitors must perform the CGA or linearity testing, as appropriate, on all scales that are reasonably expected to be used during the quarter; unless specifically exempt from this requirement per 40 CFR Part 75.

(c) CEMS Relative Accuracy Audit Option. A Relative Accuracy Audit (RAA) as defined in 40 CFR Part 60, Appendix F, may be performed in place of a CGA. For a CEMS where a CGA cannot be performed, a RAA or other audit procedures approved by the Department shall be performed in place of the CGA;

(d) CEMS RATA Quarterly Test Requirements. RATAs must be conducted at least every fourth successive calendar quarter. If the emission unit has not had 168 unit operating hours in a quarter, then that quarter shall be excluded in determining the deadline for the next RATA. If the RATA has not been completed by the end of the eighth calendar quarter since the quarter of the last RATA, then the RATA must be completed within a 720 unit operating hour grace period following the end of the eighth successive elapsed calendar quarter; or the data from the CEMS will be invalid from that point until a successful RATA can be conducted.

If an emission unit is shutdown during a quarter in which a RATA is due, before the RATA can be completed, then there is a grace period of 30 operating days before the data from the CEMS will be considered invalid.

Where the Department determines through the licensing process that it is technically infeasible to conduct a RATA, a CGA may be substituted for any RATA required under this paragraph or subsection 4(B) (6) of this Chapter, unless the compliance monitor is subject to NSPS, NESHAPS or the Acid Rain Program standards. Unless waived by the Department, the source owner or operator shall notify the Department thirty (30) days in advance of the planned RATA and shall permit the Department to observe the procedure.

(e) CEMS Time Shared Gaseous Audit Requirement. For a time-shared gaseous CEMS (one analyzer measuring the pollutant concentration of more than one gas stream), audits must be conducted on each gas stream.

(6) CEMS Audit Requirements for Other Gaseous Pollutants. For a CEMS monitoring other types of gaseous emissions not listed in Section 4(B) (5) in this Chapter (for example, mercury and other emerging pollutants of concern), audits shall be performed in accordance with Department and EPA procedures. The source owner or operator may obtain written Department approval of alternate audit procedures and frequency intervals by submitting documentation to the Department demonstrating that the proposed audit procedures are consistent with those presented in 40 CFR Part 60, Appendix B, and Appendix F.

(7) CERMS Audit Requirements. For a CERMS, the owner or operator must follow all the audit requirements listed in section 4(B) (5) in this Chapter. A CD test must be performed for both the gaseous portion of the system and the flow rate portion of the system as described in 40 CFR Part 60, Appendix B, Specification 6.

(8) COMS Audit Requirements.

(a) Daily COMS Drift Test Requirements. A zero calibration drift test and an upscale calibration drift test as described in 40 CFR Part 60, Appendix B, Specification 1, Section 8 shall be conducted daily (while the source is in operation). After the initial performance demonstration, an off-line CD test may be used to validate data if it is followed by an on-line CD test within 26 hours. Neither the on-line nor the off-line CD test, with no unscheduled adjustment in between, shall test out-of-control. (Monitor adjustment is allowed immediately after a CD test.) If a source fails to conduct the required daily calibration drift test then the data is considered invalid starting at the end of that day and until the test is successfully completed, except that if the daily calibration drift test is missed because of an emissions unit outage,the data may be considered valid if a successful daily calibration drift test is performed within the first eight hours of operation in the next unit operating day.

(b) Quarterly COMS Audit Requirements. Quarterly audits shall be performed with the monitor in place in accordance with the procedures contained in EPA-450/4-92-010, April 1992, "Performance Audit Procedures for Opacity Monitors", or equivalent procedures previously approved in writing by the Department. Audits must be conducted every operating calendar quarter. The audit must be conducted while the source is in operation unless the Department waives this requirement. If during a quarter the unit has not had 168 unit operating hours then the audit may be postponed until a quarter that exceeds the 168 unit operating hour threshold. After four successive calendar quarters have elapsed without an audit then the operator has a grace period of 168 unit operating hours in which to perform a successful audit or the data becomes invalid from that point until a successful audit can be conducted.

(c) Annual COMS Drift Test Requirements. An annual seven (7)-day length zero/upscale drift (Operational Test Period) and system response time checks test as defined in 40 CFR Part 60, Appendix B, Specification 1, Section 3 shall be performed and reported to the Department following the procedures set forth in 40 CFR Part 60, Appendix B, Specification 1, Section 8.1.

(d) COMS Calibration Attenuator Requirements. A minimum of three (3) calibration attenuators (low, mid, and high) shall be used in the audits described in this Section, as specified in 40 CFR Part 60, Appendix B, Specification 1, Section 8.1(3). The calibration attenuators shall produce outlet pathlength corrected, single-pass opacity

076

values shown in ASTM D 6216-98, section 7.5. For those sources to which any subpart of 40 CFR Parts 60, 63, or 75 is not applicable, selection of the opacity monitor span value shall be 100%. The attenuator values shall be 10-20% for the low range, 20-30% for mid range, and 30-60% for the high range for sources with standards greater than or equal to 20% opacity and 5-10% for the low range, 10-20% for mid range, and 20-40% for the high range for sources with standards less than 20% opacity.

(e) COMS Audit Protocol. For opacity monitors installed on or after February 7, 2001, and subject to NSPS, Acid Rain or NESHAPS, the values of the calibration attenuators used in the audits described in Section 4(B)(8) above shall be checked at least twice annually (no closer than four months apart) using the same specifications cited below. Facilities may use more than one set of certified attenuators during the year. The date of certification of the attenuators must be no more than six months before the date of the quarterly COMS audit.

For all other opacity monitors the values of the calibration attenuators used in the above audits shall be checked at least once every twelve (12) months with a spectrophotometer meeting the specifications of 40 CFR Part 60, Appendix B, Specification 1, Section 6.3; or with a secondary instrument, as defined and described in 40 CFR Part 60, Appendix B, Specification 1, Section 7.2. If the measured value of the calibration attenuators differs from the calibrated value by more than ± 2 percent opacity, the calibration attenuators shall be recalibrated or replaced until the measured value does not differ from the calibrated value by more than ± 2 percent opacity.

(f) COMS Quarterly Audit Notification Requirements. The source owner or operator shall perform quarterly audits described in Section 4(B) (8) (b) of this Chapter and the annual drift test and response time test described in Section 4(B) (8) (c) of this Chapter. The source owner or operator shall notify the Department, in writing, thirty (30) days in advance of the planned audit or test and shall permit the Department to observe the procedure.

(9) Particulate Matter (PM) CEMS Audit Requirements.

(a) Quarterly PM ACA Audits. Conduct an ACA (and a SVA, as applicable), at least once each calendar quarter unless a RRA or RCA is conducted during that quarter. If during a quarter the unit has not had 168 unit operating hours then the audit may be postponed until a quarter that exceeds the 168 unit operating hour threshold. After four successive calendar quarters have elapsed without an audit then the operator has a grace period of 168 unit operating hours in which to perform a successful audit or the data becomes invalid from that point until a successful audit can be conducted. The audits shall be performed with the monitor in place in accordance with the procedures contained in 40 CFR part 60 Appendix F, Procedure 2, section 10.3.

(b) Frequency of PM RRA or RCA Audits. Conduct a RRA or a RCA at the frequency specified in the applicable regulation or facility operating permit. The RRA shall be performed with the monitor in place in accordance with the procedures contained in 40 CFR part 60 Appendix F, Procedure 2, section 10.3. The RCA shall be performed with the monitor in place in accordance with the procedures contained in 40 CFR part 60 Appendix B, PS-11, section 8.6, except the minimum number of runs required is 12 instead of the 15 specified in PS-11.

(c) PM Alternative Audit Procedure Options. Alternative audit procedures may be substituted for the ACAs upon approval by the Department and EPA.

(10) Quarterly ~~PM~~ CEMS Audit Timing. All required ~~PM~~ quarterly audits may be done anytime during each calendar quarter, but successive quarterly audits shall occur no closer than sixty (60) days apart unless waived by the Department and EPA.

(11) ~~PM~~ CEMS Audit Reporting Requirements. Within thirty (30) days of the completion of a CEMS audit, the source owner or operator shall submit a written report summarizing the results of the audit in accordance with the following:

(a) For a CERMS, gaseous or PM CEMS audit, the report format shall conform to that presented in 40 CFR Part 60, Appendix F, Procedure 1, Section 7; and

(b) For a COMS audit, the report format shall conform to that presented in "Performance Audit Procedures for Opacity Monitors" EPA-450/4-92-010, April 1992, or equivalent procedures previously approved in writing by the Department.

(12) ~~PM~~ CEMS Audit Accuracy Verification Requirements. The Department may choose to conduct an independent CEMS audit to verify the accuracy of a source's CEMS.

5. **Data Recovery Requirements.** CEMS must record accurate and reliable data during all source-operating time except during established quality assurance and quality control procedure periods or during unavoidable malfunction periods. All valid data points shall be used in calculating emissions.

A. CEMS, PM CEMS or CERMS Data Recovery Requirements. If the CEMS is recording accurate and reliable data less that 90% of source-operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the CEMS was not recording accurate and reliable data during that quarter unless the owner or operator can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and the quality control procedures or unavoidable malfunctions.

Note: Pursuant to 38 MRSA, Section 349, the Department may not initiate enforcement action against any person for failure to operate a gaseous CEMS, PM CEMS or CERMS as long as the system is recording accurate and reliable data at least 90% of the source-operating time in each quarter of the calendar year.

B. COMS Data Recovery Requirements. If the COMS is recording accurate and reliable data less than 95% of the source-operating time within any quarter of the calendar year, the Department may initiate enforcement action for any period of time that the COMS was not recording accurate and reliable data during that quarter unless the owner or operator can demonstrate to the satisfaction of the Commissioner that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions.

D78

Note: Pursuant to 38 MRSA, Section 349, the Department may not initiate enforcement action against any person for failure to operate a COMS as long as the system is recording accurate and reliable data at least 95% of the source-operating time in each quarter of the calendar year, excluding time periods when the owner or operator is performing quality assurance and quality control procedures on the system that are required by the department.

C. The owner or operator of emissions units subject to this regulation must not intentionally disable, neglect or otherwise tamper with CEMS for the purpose of making data unavailable. The burden of proof is on the owner or operator to demonstrate that the failure of the CEMS to record accurate and reliable data was due to performance of established quality assurance and quality control procedures or unavoidable malfunctions and was not intended to make monitoring data unavailable.

D. If a CEMS is inoperable for greater than 10 percent (or 5% for COMS) of the time over each of four consecutive calendar quarters; then the owner or operator of emissions units subject to this regulation must replace and certify a new CEMS within 90 days of the end of the fourth quarter. Alternatives to the replacement of the entire CEMS system shall be allowed provided that the owner or operator can provide the Department with technical justification that the proposed alternative will ensure that the applicable data availability requirement can be met on a consistent basis.

E. COMS uptime is calculated by adding the number of valid minutes recorded for the COMS to the number of minutes of scheduled routine QA/QC conducted for the time period divided by the number of source operating minutes for the same time period. For other CEMS, monitor uptime is calculated by dividing the number of valid CEMS hours by the number of source operating hours for the same time period.

6. General Record keeping Requirements. Any owner or operator subject to the requirements of this Chapter shall maintain records of emission measurements, CEMS performance testing measurements, performance evaluations, calibration checks, and adjustments and maintenance performance on each CEMS and any other records required pursuant to 40 CFR Part 51, Appendix P. Such records shall be maintained on site for at least six (6) years and must be made available to the Department and EPA upon written or verbal request.

7. Quarterly Reporting Requirements

A. If no excess emissions have occurred and the CEMS have not been inoperative, repaired, or adjusted, such information shall be provided in a quarterly report.

B. Exceedance, Out-of-Control and Non-Operational Period Reporting. All sources required by state or federal requirements to install and operate a CEMS shall provide the Department with emission reports for opacity excess emissions, PM excess emissions and gaseous excess emissions on a quarterly basis within thirty (30) days of the end of each calendar quarter. These reports shall be in a format approved by the Department and shall include but not be limited to the following information:

079

(1) The name of the air contaminant emission standard exceeded;

(2) The air contaminant emission standard;

(3) The amount of air contaminant emitted in excess of the applicable emission standard expressed in the units of the standard;

(4) Date and time of commencement and completion of each time period of excess emission;

(5) Specific cause of the excess emission and the corrective action taken;

(6) Date and times of each period where the CEMS was either not operational or was out-of-control and the total percentage of time that this represents over the quarter relative to the emissions unit operating time during the quarter; and

(7) Specific cause of each out-of-control or nonoperational period for each CEMS, and the corrective action taken.

8. Compliance/Enforcement Determinations

A. CEMS data showing an excess of any applicable emission limit shall be evidence that the source has exceeded the limit. The source has the burden of demonstrating that any data is inaccurate.

B. Failure of a CEMS to provide accurate data for all periods in which the CEMS is required to be operated under this Chapter, shall constitute a violation.

C. The Department may use CEMS data for compliance determinations, enforcement actions, emissions inventory, and associated air emissions licensing issues.

9. Compliance Schedule

A. New Sources. The owner or operator of a new source with applicable requirements under this Chapter shall become compliant with this Chapter within 60 days of achieving maximum load or within 180 days of initial startup, whichever comes first. All audit and test results shall be submitted within 30 days following the audit/test unless prior approval is obtained by the Department and EPA.

B. Existing Sources. For all other existing CEMS previously required by federal regulation, air emission license condition or consent agreement, an owner or operator subject to the requirements of this Chapter shall be in compliance with all of its applicable provisions within 60 days following the effective date of this regulation.

10. Legal Authority. This rule is authorized and adopted under 38 M.R.S.A. §§ 585 and 585-A. Portions of this rule refer to the Code of Federal Regulations. Unless otherwise specified, the federal regulations references are those final regulations adopted as of July 1, 2010. The Code of Federal Regulations is available at http://www.gpoaccess.gov/cfr/index.html.

AUTHORITY: Title 38 MRSA § 590, 585-A

080

EFFECTIVE DATE: Month x, 2011

EFFECTIVE DATE (ELECTRONIC CONVERSION):

BASIS STATEMENT FOR ------ 2011

The purpose of the repeal and replacement of this rule is to update and standardize requirements for air emission sources that are required to continuously monitor their emissions. The intent is to clarify procedural protocol that the Department has established as best operating practices since 1994 when this rule was last updated. While legislative changes in 1993 covered certain aspects of the Continuous Emission Monitoring systems requirements for malfunction and minimum data recovery, there has been a significant improvement in technology since that time. This rule enables the owners, operators as well as Department staff to better analyze and quantify emissions and provides clear protocol for making a determination that sources are or are not in compliance with their established permit requirements. It clarifies the protocol for existing gaseous pollutant monitoring as well as provides protocol for emerging gaseous pollutant monitoring that is anticipated to increase over the next decade. Permit limits such as emission standards are established to protect public health. In addition to this basis statement, the Department has filed with the Secretary of State its response to comments received during the comment period. This replacement and repeal of Chapter 117 does not impose new requirements for facilities to monitor mass emissions rates. Requirements to install and operate continuous emission rate monitoring systems (CERMS) are established through an air emission license or as a result of applicable state or federal regulations.