

R307. Environmental Quality, Air Quality.

R307-170. Continuous Emission Monitoring Program.

R307-170-1. Purpose.

The purpose of this rule is to establish consistent requirements for all sources required to install a continuous monitoring system (CMS) and for sources who opt into the continuous emissions monitoring program.

R307-170-2 Authority.

Authority to require continuous emission monitoring devices is found in 19-2-104(1)(c), and authorization for a penalty for rendering inaccurate any monitoring device or method is found in 19-2-115(4). Authority to enforce 40 CFR Part 60 is obtained by its incorporation by reference under R307-210.

R307-170-3. Applicability.

Except as noted in (1) and (2) below, any source required to install a continuous monitoring system to determine emissions to the atmosphere or to measure control equipment efficiency is subject to R307-170.

(1) Any source subject to 40 CFR Part 60 as incorporated by R307-210, Standards of Performance for New Sources, is not subject to R307-170-6, Minimum Monitoring Requirements for Specific Sources.

(2) Any source required by an approval order issued under R307-401 to operate a continuous monitoring system to satisfy the requirements of R307-150, Periodic Reports of Emissions and Availability of Information, is not subject to R307-170-9(7), Excess Emission Report.

R307-170-4. Definitions.

The following additional definitions apply to R307-170.

"Accuracy" means the difference between a continuous monitoring system response and the results of an applicable EPA reference method obtained over the same sampling time.

"Averaging Period" means that period of time over which a pollutant or opacity is averaged to demonstrate compliance to an emission limitation or standard.

"Block Averages" means the total time expressed in fractions of hours over which emission data is collected and averaged.

"Calibration Drift" (zero drift and span drift) means the value obtained by subtracting the known standard or reference value from the raw response of the continuous monitoring system.

"Channel" means the pollutant, diluent, or opacity to be monitored.

"CMS Information" means the identifying information for each continuous monitoring system a source is required to install.

"Computer Enhancement" means computerized correction of a monitor's zero drift and span drift to reflect actual emission concentrations and opacity.

"Continuous Emission Monitoring System" (CEMS) means all equipment required to determine gaseous emission rates and to record the resulting data.

"Continuous Monitoring System" (CMS) means all equipment required to determine gaseous emission rates or opacity and to record the data.

"Continuous Opacity Monitoring System" means all equipment required to determine opacity and data recording.

"Cylinder Gas Audit" means an alternative relative accuracy test of a continuous emission monitoring system to determine its precision using gases certified by or traceable to National Institute of Standards and Technology (NIST) in the ranges specified in 40 CFR 60, Appendix F.

"Description Report" means a short but accurate description of events that caused continuous monitoring system irregularities or excess emissions which occurred during the reporting period submitted in the state electronic data report.

"Excess Emission Report" means a report within the state electronic data report which documents the date, time, and magnitude of each excess emission episode occurring during the reporting period.

"Excess Emissions" means the amount by which recorded emissions exceed those allowed by approval orders, operating permits, the state implementation plan, or any other provision of R307.

"Monitor" means the equipment in a continuous monitoring system that analyzes concentration or opacity and generates an electronic signal which is sent to a recording device.

"Monitor Availability" means any period in which both the source of emissions and the continuous monitoring system are operating and the minimum frequency of data capture occurred as required in 40 CFR 60.13.

"Monitor Unavailability" means any period in which the source of emissions is operating and the continuous monitoring system is:

- a. not operating or minimum data capture did not occur,
- b. not generating data, not recording data, or data is lost, or
- c. out-of-control in the case of a continuous emissions monitor used for continuous compliance purposes.

"New Source Performance Standards" (NSPS) means 40 CFR 60, Standards of Performance for New Stationary Sources, incorporated by reference at R307-210.

"Operations Report" means the report of all information required under 40 CFR 60 for utilities and fossil fuel fired boilers.

"Performance Specification" means the operational tolerances for a continuous monitoring system as outlined in 40 CFR 60, Appendix B.

"Precision" means the difference between a continuous monitoring system response and the known concentration of a calibration gas or neutral density filter.

"Quality Assurance Calibrations" means calibrations, drift adjustments, and preventive maintenance activities on a continuous monitoring system.

"Raw Continuous Monitoring System Response" means a continuous monitoring system's uncorrected response used to determine calibration drift.

"Relative Accuracy Audit" means an alternative relative accuracy test procedure outlined in 40 CFR 60, Appendix F, which is used to correlate continuous emission monitoring system data to simultaneously collected reference method test data, as outlined in 40 CFR Part 60, Appendix A, using no fewer than three reference method test runs.

"Relative Accuracy Test Audit" means the primary method of determining the correlation of continuous emissions monitoring system data to simultaneously collected reference method test data, using no fewer than nine reference method test runs conducted as outlined in 40 CFR 60, Appendix A.

"State Electronic Data Report" (SEDR) means the sum total of a source's monitoring activities which occurred during a reporting period.

"Summary Report" means the summary of all monitor and excess emission information which occurred during a reporting period.

"Tamper" means knowingly:

- a. to make a false statement, representation, or certification in any application, report, record, plan, or other document filed or required to be maintained under R307-170, or
- b. to render inaccurate any continuous monitoring system or device or any method required to maintain the accuracy of the continuous monitoring system or device.

"Valid Monitoring Data" means data collected by an accurately functioning continuous monitoring system while any installation monitored by the continuous monitoring system is in operation.

R307-170-5. General Requirements.

(1) Each source required to operate a continuous monitoring system is subject to the requirements of 40 CFR 60.13 (d) through (j), except as follows:

(a) When minimum emission data points are collected by the continuous monitoring system as required in 40 CFR 60.13 or applicable subparts, quality assurance calibration and maintenance activities shall not count against monitor availability.

(b) a monitor's unavailability due to calibration checks, zero and span checks, or adjustments required in 40 CFR 60.13 or R307-170 will not be considered a violation of R307-170.

(c) Monitor unavailability due to continuous monitoring system breakdowns will not be considered a monitor unavailability violation provided that the owner or operator demonstrates that the malfunction was unavoidable and was repaired expeditiously.

(d) To supplement continuous monitor data, a source with minimum continuous monitoring system data collection requirements may conduct applicable reference method tests outlined in 40 CFR 60, Appendix A, or as directed in the source's applicable Subpart of the New Source Performance Standards.

(2) Each source shall monitor and record all emissions data during all phases of source operations, including start-ups, shutdowns, and process malfunctions.

(3) Each source operating a continuous emissions monitoring system for compliance determination shall document each out-of-control period in the state electronic data report.

(4) Each continuous monitoring system subject to R307-170 shall be installed, operated, maintained, and calibrated in accordance with applicable performance specifications found in 40 CFR 60 Appendix B and Appendix F.

(5) Each continuous emissions monitoring system shall be configured so that calibration gas can be introduced at or as near to the probe inlet as possible. Each source shall conduct daily calibration zero drift and span drift checks and cylinder gas audits by flowing calibration gases at the probe inlet, or as near to the probe inlet as possible. Daily calibration drift checks and quarterly cylinder gas audit data shall be recorded by the continuous emissions monitoring system electronically to a strip chart recorder, data logger, or data recording devices.

(6) No person shall tamper with a continuous monitoring system.

(7) Any source that constructs two or more emission point sources which may interfere with visible emissions observations shall install a continuous opacity monitor to show compliance

with visible emission limitations on each obstructed stack, duct or vent that has a visible emission limitation.

R307-170-6. Minimum Monitoring Requirements for Specific Sources.

(1) Fossil Fuel Fired Steam Generators.

(a) A continuous monitoring system for the measurement of opacity shall be installed, calibrated, maintained, and operated on any fossil fuel fired steam generator of greater than 250 million BTU per hour for each boiler except where:

(i) natural gas or oil or a mixture of natural gas and oil is the only fuel burned,

(ii) the source is able to comply with the applicable particulate matter and opacity regulations without using particulate matter collection equipment, and

(iii) the source has never been found through any administrative or judicial proceeding to be in violation of any visible emission standard or requirements.

(b) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated on any fossil fuel fired steam generator of greater than 250 million BTU per hour heat input which has installed sulfur dioxide pollution control equipment.

(c) A continuous monitoring system for the measurement of nitrogen oxides shall be installed, calibrated, maintained, and operated on fossil fuel fired steam generators of greater than 1000 million BTU per hour heat input when such facility is located in an Air Quality Control Region where the executive secretary has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the national standards, unless the source owner or operator demonstrates during source compliance tests as required by the executive secretary that such a source emits nitrogen oxides at levels 30 percent or more below the emission standard.

(d) A continuous monitoring system for the measurement of percent oxygen or carbon dioxide shall be installed, calibrated, maintained, and operated on any fossil fuel fired steam generators where measurements of oxygen or carbon dioxide in the flue gas are required to convert either sulfur dioxide or nitrogen oxides continuous emission monitoring data, or both, to units of the emission standard.

(2) Nitric Acid Plants.

Each nitric acid plant of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid, and located in an Air Quality Control Region where the Executive Secretary has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the

national standard, shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of nitrogen oxides for each nitric acid producing installation.

(3) Sulfuric Acid Plants - Burning and Production.

Each sulfuric acid plant of greater than 300 tons per day production capacity, the production being expressed as 100 percent acid, shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide for each sulfuric acid producing installation within such plant.

(4) Petroleum Refineries - Fluid Bed Catalytic Cracking Unit Catalyst Regenerator.

Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of opacity.

R307-170-7. Performance Specification Audits.

(1) Quarterly Audits.

Each continuous emissions monitoring system shall be audited at least once each calendar quarter. Successive quarterly audits shall be conducted at least two months apart. A relative accuracy test audit shall be conducted at least once every four calendar quarters as described in the applicable performance specification of 40 CFR 60, Appendix B.

(a) Relative accuracy shall be determined in units of the applicable emission limit.

(b) An alternative relative accuracy test (cylinder gas audit or relative accuracy audit) may be conducted in three of the four calendar quarters in place of conducting a relative accuracy test audit, but in no more than three quarters in succession.

(c) Each range of a dual range monitor shall be audited using an alternative relative accuracy audit procedure.

(d) Minor deviations from the reference method test must be submitted to the executive secretary for approval.

(e) Performance specification tests and audits shall be conducted so that the entire continuous monitoring system is concurrently tested.

(2) Notification.

The source shall notify the executive secretary of its intention to conduct a relative accuracy test audit by submitting a pretest protocol or by scheduling a pretest conference if directed to do so by the executive secretary. Each source shall notify the executive secretary no less than 45 days prior to testing.

(3) Audit Procedure.

A source may stop a relative accuracy test audit before the commencement of the fourth run to perform repairs or adjustments on the continuous emissions monitoring system. If the audit is stopped to make repairs or adjustments the audit must be started again from the beginning. If the fourth test run is started, testing shall be conducted until the completion of the ninth acceptable test run or the source may declare the monitor out-of-control and stop the test. If the system does not meet its applicable relative accuracy performance specification outlined in 40 CFR 60, Appendix B, its data may not be used in determining emissions rates until the system is successfully recertified.

(4) Performance Specification Tests.

(a) Except as listed in (b) below, all reference method testing equipment shall be totally independent of the continuous emissions monitoring system equipment undergoing a performance specification test.

(b) Reference method tests conducted on fuel gas lines, vapor recovery units, or other equipment as approved by the executive secretary may use a common probe, when the reference method sample line ties into the continuous emission monitor's probe or sample line as close to the probe inlet as possible.

(5) Submittal of Audit Results.

The source shall submit all relative accuracy performance specification test reports to the executive secretary no later than 60 days after completion of the test.

(a) Test reports shall include all raw reference method calibration data, raw reference method emission data with date and time stamps, and raw source continuous monitoring data with date and time stamps. All data shall be reported in concentration and units of the applicable emission limit.

(b) Relative accuracy performance specification test or audit reports shall include the company name, plant manager's name, mailing address, phone number, environmental contact's name, the monitor manufacturer, the model and serial number, the monitor range, and its location.

(6) Daily Drift Test.

Each source operating a continuous monitoring system shall conduct a daily zero and span calibration drift test as required in 40 CFR 60.13(d). The zero and span drifts shall be determined by using raw continuous monitoring system responses to a known value of the reference standard. Computer enhancements may be used to correct continuous monitoring system emission data which has been altered by monitor drift, but may not be used to determine daily zero and span drift.

(a) A monitor used for compliance which fails the daily calibration drift test as outlined in 40 CFR 60 Appendix F,

Subpart 4, shall be declared out-of-control, and the out-of-control period shall be documented in the state electronic data report. The source shall make corrective adjustments to the system promptly. Continuous emission monitoring system data collected during the out-of-control period may not be used for monitor availability.

(b) Each source operating a continuous monitoring system which exceeds the calibration drift limit as outlined in 40 CFR 60 and the applicable performance specification shall make corrective adjustments promptly.

R307-170-8. Recordkeeping.

Each source subject to this rule shall maintain a file of all:

- (1) parameters for each continuous monitoring system and monitoring device,
- (2) performance test measurements,
- (3) continuous monitoring system performance evaluations,
- (4) continuous monitoring system or monitoring device calibration checks,
- (5) adjustments and maintenance conducted on these systems or devices, and
- (6) all other information required by this rule.

Information shall be recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, and shall be available to the executive secretary at any time.

R307-170-9. State Electronic Data Report.

- (1) General Reporting Requirements.

(a) Each source required to install a continuous monitoring system shall submit the state electronic data report including all information specified in (2) through (10) below. Each source shall submit a complete, unmodified report in an electronic ASCII format specified by the executive secretary.

- (b) Partial Reports.

(i) If the total duration of excess emissions during the reporting period is less than one percent of the total operating time and the continuous monitoring system downtime is less than five percent of the total operating time, only the summary portion of the state electronic data report need be submitted.

(ii) If the total excess emission during the reporting period is equal to or greater than one percent of the total operating time, or the total monitored downtime is equal to or greater than five percent of the total operating time, the total state electronic data report shall be submitted.

(iii) Each source required to install a continuous monitoring system for the sole purpose of generating emissions inventory data is not required to submit the excess emission report required by (7) below or the excess emission summary required by (6)(b) below unless otherwise directed by the executive secretary.

(c) Frequency of Reporting. Each source subject to this rule shall submit a report to the executive secretary with the following frequency:

(i) Each source shall submit a report quarterly if required by the executive secretary or by 40 CFR Part 60, or if the continuous monitoring system data is used for compliance determination. Each source submitting quarterly reports shall submit them by January 30, April 30, July 30, and October 30 for the quarter ending 30 days earlier.

(ii) Any source subject to this rule and not required to submit a quarterly report shall submit its report semiannually by January 30 and July 30 for the six month period ending 30 days earlier.

(iii) The executive secretary may require any source to submit all emission data generated on a quarterly basis.

(2) Source Information.

The report shall contain source information including the company name, name of manager or responsible official, mailing address, AIRS number, phone number, environmental contact name, each source required to install a monitoring system, quarter or quarters covered by the report, year, and the operating time for each source.

(3) Continuous Monitoring System Information.

The report shall identify each channel, manufacturer, model number, serial number, monitor span, installation dates and whether the monitor is located in the stack or duct.

(4) Monitor Availability Reporting.

(a) The report shall include all periods that the pollutant concentration exceeded the span of the continuous monitoring system by source, channel, start date and time, and end date and time.

(b) Each continuous monitoring system outage or malfunction which occurs during source operation shall be reported by source, channel, start date and time, and end date and time.

(c) When it becomes necessary to supplement continuous monitoring data to meet the minimum data requirements, the source shall use applicable reference methods and procedures as outlined in 40 CFR 60, or as stipulated in the source's applicable Subpart of the New Source Performance Standards. Supplemental data shall be reported by source, channel, start

date and time, and end date and time, and may be used to offset monitor unavailability.

(d) Monitor modifications shall be reported by source, channel, date of modification, whether a support document was submitted, and the reason for the modification.

(5) Continuous Monitoring System Performance Specification Audits.

(a) Each source shall submit the results of each relative accuracy test audit, relative accuracy audit and cylinder gas audit. Each source which reports linearity tests may omit reporting cylinder gas audits.

(b) Each relative accuracy test audit shall be reported by source, channel, date of the most current relative accuracy test audit, date of the preceding relative accuracy test audit, number of months between relative accuracy test audits, units of applicable standard, average continuous emissions monitor response during testing, average reference method value, relative accuracy, and whether the continuous emissions monitor passed or failed the test or audit.

(c) A relative accuracy audit shall be reported by source, channel, date of audit, continuous emissions monitor response, relative accuracy audit response, percent precision, pass or fail results, and whether the monitor range is high or low.

(d) Cylinder gas audit and linearity tests shall be reported by source, channel, date, audit point number, cylinder identification, cylinder expiration date, type of certification, units of measurement, continuous emissions monitor response, cylinder concentration, percent precision, pass or fail results, and whether the monitor range is high or low.

(6) Summary reports.

(a) Each source shall summarize and report each continuous monitoring system outage that occurred during the reporting period in the continuous monitoring system performance summary report. The summary must include the source, channels, monitor downtime as a percent of the total source operating hours, total monitor downtime, hours of monitor malfunction, hours of non-monitor malfunction, hours of quality assurance calibrations, and hours of other known and unknown causes of monitor downtime. A source operating a backup continuous monitoring system must account for monitor unavailability only when accurate emission data are not being collected by either continuous monitoring system.

(b) The summary report shall contain a summary of excess emissions which occurred during the reporting period unless the continuous monitoring system was installed to document compliance with an emission cap or to generate data for annual emissions inventories.

(i) Each source with multiple emission limitations per channel being monitored shall summarize excess emissions for each emission limitation.

(ii) The emission summary must include the source, channels, total hours of excess emissions as a percent of the total source operating hours, hours of start-up and shutdown, hours of control equipments problems, hours of process problems, hours of other known and unknown causes, emission limitation, units of measurement, and emission limitation averaging period.

(c) When no continuous monitoring unavailability or excess emissions have occurred, this shall be documented by placing a zero under each appropriate heading.

(7) Excess Emissions Report.

(a) The magnitude and duration of all excess emissions shall be reported on an hourly basis in the excess emissions report.

(i) The duration of excess emissions based on block averages shall be reported in terms of hours over which the emissions were averaged. Each source that averages opacity shall average it over a six minute block and shall report the duration of excess opacity in tenths of an hour. Sources using a rolling average shall report the duration of excess emissions in terms of the number of hours being rolled into the averaging period.

(ii) Sources with multiple emission limitations per channel being monitored shall report the magnitude of excess emissions for each emission limitation.

(b) Each period of excess emissions that occurs shall be reported. Each episode of excess emission shall be accompanied with a reason code and action code which links the excess emission to a specific description which describes the events of the episode.

(8) Operations Report.

Each source operating fossil fuel fired steam generators subject to 40 CFR 60, Standards of Performance for New Stationary Sources, shall submit an operations report.

(9) Signed Statement.

(a) Each source shall submit a signed statement acknowledging under penalties of law that all information contained in the report is truthful and accurate, and is a complete record of all monitoring related events which occurred during the reporting period. In addition, each source with an operating permit issued under R307-415 shall submit the signed statement required in R307-415-5d.

(10) Descriptions.

Each source shall submit a narrative description explaining each event of monitor unavailability or excess emissions. Each

description also shall be accompanied with reason codes and action codes that will link descriptions to events reported in the monitoring information and excess emission report.

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19-2-115(3)(b)
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