ARTICLE 3. MONITORING REQUIREMENTS

Rule 1. Continuous Monitoring of Emissions

3-1-1 Applicability

(a) Sources in the following categories shall continuously monitor and record emissions of air pollutants in accordance with this rule:

(1) Fossil fuel-fired steam generators of greater than 250 million Btu per hour heat input capacity.

(2) Nitric acid plants of greater than 300 tons per day production capacity, the production capacity being expressed at 100% acid.

(3) Sulfuric acid sources of greater than 300 tons per day acid production capacity, the production capacity being expressed at 100% acid.

(4) Petroleum refinery catalyst regenerators for fluid bed catalytic cracking units of greater than 20,000 barrels (840,000 gallons) per day fresh feed capacity.

(b) Other monitoring requirements are contained in 325 IAC 2-1-4(i) (formerly known as APC 19) [now codified at 326 IAC 2-1-3(h)] and 315 IAC 7-1 (formerly known as APC 13) [now codified at 326 IAC 7].

Rule 2.1. Source Sampling Procedures *(Repealed)*

3-2.1-5 Specific testing procedures

At Richmond Power and Light's Whitewater Generating Station, when sootblowing occurs during one (1) of the three (3) repetitions, emission test results shall be evaluated using either a time weighted averaging period (TWAP) or a straight averaging technique. When using TWAP, the following equation shall be used to ensure proper weighting of an intermittent cleaning cycle performance test run regardless of the length of the cleaning cycle and regardless of the number and duration of the test runs made on the unit. When using the TWAP, the representative pounds per hour of particulate emissions

(E) shall be calculated by using the following equation:

$$E = E_{cc}\left[\frac{(A + B)S}{AR}\right] + E_{ncc}\left[\frac{(R - S)}{R}\ \frac{BS}{AR}\right]$$

Where: E = pounds per hour of particulate emissions Ecc = average E of sample containing cleaning cycle
Encc = average E of sample containing no cleaning cycle A = hours of cleaning cycle operation during sample
B = hours with no cleaning cycle operation during sample R = average hours of operation per twenty-four (24) hours
S = average hours of cleaning cycle operation per twenty-four (24) hours

Rule 4. General Provisions

326 IAC 3-4-1 Definitions

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-11; IC 13-15; IC 13-17

Sec. 1. In addition to the definitions provided in IC 13-11, 326 IAC 1-2, and 326 IAC 2-7, the following definitions apply throughout this article unless expressly stated otherwise:

(1) "Calendar quarter" means a consecutive three (3) month period (nonoverlapping) beginning on:
- (A) January 1;
- (B) April 1;
- (C) July 1; or
- (D) October 1.

(2) "Capture system" means the equipment, including hoods, ducts, fans, and booths, that is used to contain, capture, and transport a pollutant to a control device.

(3) "Continuous emission monitoring system" or "CEMS" means the equipment required by the applicable permit, state rule, or federal regulation used to sample, analyze, measure, and provide a continuous, permanent record of emissions in units of the applicable standard or other form.

(4) "Continuous opacity monitoring system" or "COMS" means the equipment required by the applicable permit, state rule, or federal regulation used to measure the opacity of the effluent on a continuous basis as either of the following:
- (A) The optical density of the effluent gas.
- (B) The opacity of the effluent gas.

(5) "Data" means the results of any type of monitoring or method, including the results of:

(A) instrumental or noninstrumental monitoring;

(B) emission calculations;

(C) manual sampling procedures;

(D) record keeping procedures; or

(E) any other form of information collection procedure used in connection with any type of monitoring or method.

(6) "Emission limitation or standard" means the following:

(A) Any applicable requirement contained in this title that constitutes:

(i) an emission limitation or standard;

(ii) a standard of performance; or

(iii) a means of emission limitation.

(B) An emission limitation or standard may be expressed:

(i) in terms of the pollutant, either as:

(AA) a specific quantity, rate, or concentration of emissions; or

(BB) the relationship of uncontrolled to controlled emissions; or

(ii) as either:

(AA) a work practice;

(BB) a process or control devices parameter; or

(CC) another form of specific:

(aa) design;

(bb) equipment;

(cc) operational; or

(dd) operation and maintenance;

requirement.

(C) For purposes of 326 IAC 3-8, an emission limitation or standard shall not include general operation requirements that an owner or operator may be required to meet.

(7) "Emission test", "compliance test", or "performance test" means a procedure for sampling a gas stream from a single sampling location at an emissions unit, or pollution control equipment, to determine a pollutant emission rate, concentration, or parameter while the emissions unit, or pollution control equipment is operating at conditions that result in measurement of the highest emission or parameter values (prior to any control device), or at other operating conditions approved by the department or U.S. EPA. A test shall comprise three (3) sampling runs for a specified sampling time span. Additional conditions may be required by applicable rules, permit, or order. The owner or operator shall perform the test using sampling and analytical procedures approved by the department or U.S. EPA for the specific pollutant or parameter and emissions unit, pollution control equipment, process, or operation.

(8) "Emissions unit" has the meaning set forth in 326 IAC 1-2-23.5.

(9) "Exceedance" means a condition that:

(A) is detected by monitoring that provides data in terms of an emission limitation or standard; and

(B) indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

(10) "Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. For purposes of this article, a CEMS or COMS is considered process equipment.

(11) "Monitoring" means any form of collecting data on a routine basis to determine or otherwise assess compliance with emission limitations or standards. The term includes the following:

(A) Record keeping, if records are used to determine or assess compliance with an emission limitation or standard, including:

(i) records of raw material content and usage;

(ii) records that document compliance with work practice requirements; or

(iii) other records used to determine or assess compliance with an emission limitation or standard.

(B) Compliance method tests that are conducted on a routine periodic basis.

(C) One (1) or more of the following data collection techniques, where appropriate, for a particular circumstance:

(i) Continuous emission or opacity monitoring systems.

(ii) Continuous process, capture system, control device, or other relevant parameter monitoring systems or procedures, including a PEMS.
(iii) Emission estimation and calculation procedures.
(iv) Maintenance and analysis of records of fuel or raw materials usage.
(v) Recording results of a program or protocol to conduct specific operation and maintenance procedures.
(vi) Verification of emissions, process parameters, capture system parameters, or control device parameters, using portable or in situ measurement devices.
(vii) Visible emission observations.
(viii) Any other form of measuring, recording, or verifying on a routine basis emissions, process parameters, capture system parameters, control device parameters, or other factors relevant to assessing compliance with an emission limitation or standard.

(12) "Out of control" means any data collected by a continuous monitoring system during periods immediately following an out of tolerance quality assurance assessment and prior to an acceptable quality assurance assessment.

(13) "Peaking unit" means an emissions unit that has:

(A) an average capacity factor of not more than ten and zero-tenths percent (10.0%) during the previous three (3) calendar years; and

(B) a capacity factor of not more than twenty and zero-tenths percent (20.0%) in each of those calendar years.

(14) "Predictive emission monitoring system" or "PEMS" means a system that uses process and other parameters as inputs to a computer program or other data reduction system to produce values in terms of the applicable emission limitation or standard.

(15) "QA operating quarter" means a calendar quarter in which there are at least one hundred sixty-eight (168) unit operating hours, as defined in subdivision (18), or, for a common stack or bypass stack, a calendar quarter in which there are at least one hundred sixty-eight (168) stack operating hours, as defined in subdivision (17).

(16) "Quality assurance" means those activities performed to establish validity of data used to demonstrate compliance.

(17) "Stack operating hour" means a clock hour during which flue gases flow through a particular stack or duct, either for the entire hour or for part of the hour, while any associated emissions units are combusting fuel.

(18) "Unit operating hour" means a clock hour during which an emissions unit combusts any fuel, either for part of the hour or for the entire hour.

(Air Pollution Control Division; 326 IAC 3-4-1; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2062; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1566; filed Aug 26, 2004, 11:30 a.m.: 28 IR 30; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)

326 IAC 3-4-2 Certification

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 2. Each report submitted under this article shall contain a certification of truth, accuracy, and completeness. This certification and any other certification required under this article shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Reports submitted under 326 IAC 3-8 shall meet the certification requirements of 326 IAC 2-7-4(f). *(Air Pollution Control Division; 326 IAC 3-4-2; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2063; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-4-3 Conversion factors

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-15; IC 13-17

Sec. 3. (a) Owners or operators of emissions units subject to this article shall use the following procedures for converting monitoring data to units of the standard where necessary:

(1) The owner or operator of a fossil fuel-fired steam generator shall use the following procedures to convert gaseous emission monitoring data in parts per million (ppm) to pounds per million British thermal units (Btu) (lbs/MMBtu) where necessary:

(A) When the owner or operator of a fossil fuel-fired steam generator elects under this article to measure oxygen (O_2) in flue gases, the owner or operator shall measure the pollutant concentration and oxygen on a dry basis and use the following conversion procedure:

$$E = CF \frac{(20.9)}{(20.9 - \%O_2)}$$

(B) When the owner or operator elects under this article to measure carbon dioxide (CO_2) in flue gases, the owner or operator shall measure the pollutant concentration and the CO_2 concentration on a consistent basis (wet or dry) and use the following conversion procedure:

$$E = CF_c \frac{(100)}{(\%CO_2)}$$

(C) When the owner or operator elects under this article to measure sulfur dioxide (SO_2) or nitrogen oxides (NO_x) in the flue gases, the owner or operator shall measure the diluent concentration and the SO_2 or the NO_x concentration on a wet basis and use the following conversion procedure, except where wet scrubbers are employed or where moisture is otherwise added to the stack gases:

$$E = C_{ws} F_w \frac{(20.9)}{(20.9\ (1 - B_{wa}) - \%O_{2ws})}$$

(D) When the owner or operator elects under this article to measure SO_2 or NO_x in the flue gases, the owner or operator shall measure the diluent concentration and the SO_2 or the NO_x concentration on a wet basis and use the following conversion procedure, where wet scrubbers or moisture is otherwise present in the stack gases, provided water vapor content of the stack gas is measured at least once every fifteen (15) minutes at the same point as the pollutant and oxygen measurements are made:

$$E = C_{ws} F \frac{(20.9)}{(20.9\ (1 - B_{ws}) - \%O_{2ws})}$$

(E) The values used in the equations under this subdivision are derived as follows:

C_{ws} = Pollutant concentration at stack conditions in grams per wet standard cubic meter (g/wscm) or pounds per wet standard cubic meter (lbs/wscm), determined by multiplying the average concentration in parts per million (ppm) for each one (1) hour period by 4.15×10^{-5} M g/wscm per ppm or 2.59×10^{-9} M lbs/wscm per ppm, where M is pollutant molecular weight in grams per gram-mole (g/g-mole) or pounds per pound-mole (lb/lb-mole).

M = 64.07 for SO_2 and 46.01 for oxides of nitrogen (NO_x) as NO_2.

C = Pollutant concentration at stack conditions in pounds per dry standard cubic meter (lbs/dscm) or grams per dry standard cubic meter (g/dscm).

F, F_c = A factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given in 40 CFR 60, Appendix A, Method 19*, as applicable.

F_w = A factor representing a ratio of the volume of wet flue gases generated to the calorific value of the fuel combusted. Values of F_w are given in 40 CFR 60, Appendix A, Method 19*.

B_{wa} = Proportion by volume of water vapor in the ambient air.

B_{ws} = Proportion by volume of water vapor in the stack gas.

E = Pollutant emission, lbs/MMBtu.

Percent O_2, percent CO_2 = Oxygen or carbon dioxide volume (expressed as percent) determined with equipment specified under this article.

Percent O_{2ws} = Oxygen volume (expressed as percent) measurements made at stack conditions on a wet basis.

(2) For sulfuric acid plants, the owner or operator shall:

(A) establish a conversion factor three (3) times daily according to the procedures of 40 CFR 60.84(b)*;

(B) multiply the conversion factor by the average sulfur dioxide (SO_2) concentration in the flue gases to obtain average SO_2 emissions in pounds per ton (lbs/ton); and

(C) report the average sulfur dioxide emissions for each three (3) hour period in excess of the emission standard set forth in 326 IAC 7 in the quarterly report.

(b) The department may approve alternate procedures for computing emission averages that do not require integration of

data or alternative methods of converting pollutant concentration measurements to units of the emission standard if the owner or operator shows that the alternate procedures are at least as accurate as those in this rule.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-4-3; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2063; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1566; filed Aug 26, 2004, 11:30 a.m.: 28 IR 31; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

Rule 5. Continuous Monitoring of Emissions

326 IAC 3-5-1 Applicability; continuous monitoring requirements for applicable pollutants

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 1. (a) This rule applies to the following sources or emissions units to determine compliance with an emission limitation or standard:

(1) Any emissions unit required to perform continuous monitoring under 326 IAC 12.

(2) Fossil fuel-fired steam generators of greater than one hundred million (100,000,000) British thermal units (Btu) per hour heat input capacity.

(3) Sulfuric acid plants of greater than three hundred (300) tons per day acid production capacity.

(4) Petroleum refinery catalyst regenerators for fluid bed catalytic cracking units of greater than twenty thousand (20,000) barrels or eight hundred forty thousand (840,000) gallons per day fresh feed capacity.

(5) Portland cement plants.

(6) Sources or emissions units that combust sewage sludge.

(7) Sources or emissions units making coke from raw materials, including the following:

(A) Coal refining byproducts.

(B) Petroleum refining byproducts.

(8) Emissions units in Clark and Floyd counties that:

(A) have potential to emit nitrogen oxides (NO_x) of greater than or equal to forty (40) tons per year; and

(B) are located at sources that have potential to emit NO_x of greater than or equal to one hundred (100) tons per year as described in 326 IAC 10.

(9) Any emissions unit required to monitor under subsection (c).

(b) Owners and operators of sources or emissions units described in subsection (a) are subject to the following requirements:

(1) Any emissions unit subject to 326 IAC 12 must comply with the following:

(A) The monitoring and reporting requirements as specified for the applicable rule.

(B) All requirements of this rule.

(2) The owner or operator of a fossil fuel-fired steam generator of greater than one hundred million (100,000,000) Btu per hour heat input capacity must continuously monitor the following:

(A) Opacity, unless one (1) of the following occurs:

(i) Gaseous fuel is the only fuel combusted.

(ii) Oil or a mix of gas and oil are the only fuels combusted and the emissions unit is able to comply with both of the following rules without using particulate matter collection equipment:

(AA) 326 IAC 5-1.

(BB) 326 IAC 6-2.

(iii) An alternative monitoring requirement request has been granted by the department and approved by U.S. EPA. The owner or operator may request an alternative monitoring requirement when installation of an opacity monitoring system would not provide accurate determinations of emissions as a result of interference from condensed uncombined water vapor. Any alternative monitoring requirement request must address the following:

(AA) Information pertaining to the inability of the affected emissions unit to find an acceptable monitoring location prior to the source of the condensed, uncombined water vapor.(BB) A list of proposed alternative monitoring requirements. For each proposed alternative monitoring requirement, the request must provide a detailed description of thresholds or triggers for corrective action resulting from deviation from normal operating

parameters and how deviations from key surrogate parameters are to be addressed to ensure continuous compliance with all applicable particulate and opacity requirements. An example of an acceptable alternative monitoring requirement is a particulate compliance demonstration that is performed at least annually, in accordance with 326 IAC 3-6 and a compliance monitoring plan that, at a minimum, satisfies monitoring requirements under 326 IAC 2-7 or 326 IAC 2-8.

(CC) Record keeping that is consistent with section 6 of this rule.

(DD) Reporting frequency that is no less frequent than that required in section 7 of this rule.

(iv) An alternative monitoring requirement request granted by the department under item (iii) must be submitted to U.S. EPA as a state implementation plan (SIP) revision and is not in effect until approved as a SIP revision.

(B) Sulfur dioxide (SO_2) under the following conditions:

(i) SO_2 pollution control equipment has been installed.

(ii) A monitor is required to determine compliance with either:

(AA) 326 IAC 12; or

(BB) a new construction permit or operating permit required under 326 IAC 2.

(C) Nitrogen oxide (NO_x) under the following conditions:

(i) NO_x pollution control equipment has been installed.

(ii) A monitor is required to determine compliance with either:

(AA) 326 IAC 12; or

(BB) a new construction permit or operating permit required under 326 IAC 2.

(D) The percent oxygen (O_2) or carbon dioxide (CO_2) if measurements of O_2 or CO_2 in the flue gas are required to convert either SO_2 or NO_x continuous monitoring data, or both, to units of the emission limitation for the particular emissions unit.

(3) Sulfuric acid plants of greater than three hundred (300) tons per day acid production capacity must monitor SO_2 for each sulfuric acid producing emissions unit within the source.

(4) Petroleum refinery catalyst regenerators for fluid bed catalytic cracking units of greater than twenty thousand (20,000) barrels or eight hundred forty thousand (840,000) gallons per day fresh feed capacity must monitor opacity for each regenerator within the source.

(5) Portland cement plants must monitor opacity at kiln and clinker cooler emission units.

(6) Sources or emissions units that combust sewage sludge must monitor from the effluent gas exiting the incinerator, the following:

(A) Total hydrocarbons, unless the following conditions are met:

(i) The exit gas from the sewage sludge incinerator stack is monitored continuously for carbon monoxide (CO).

(ii) The monthly average concentration of CO in the exit gas from the sewage sludge incinerator stack, corrected for zero percent (0%) moisture and to seven percent (7%) oxygen, does not exceed one hundred (100) parts per million on a volumetric basis.

(B) Oxygen.

(C) Moisture, unless an alternative method is approved by the department and the U.S. EPA.

(D) Temperature.

(7) Sources or emissions units making coke from coal must monitor opacity on the underfire stack associated with each coke oven battery.

(8) Emissions units in Clark and Floyd counties that have potential to emit NO_x greater than or equal to forty (40) tons per year and are located at sources that have potential to emit NO_x greater than or equal to one hundred (100) tons per year must install NO_x continuous emission monitors as described in 326 IAC 10-1.

(c) The owner or operator of an emissions unit required to continuously monitor opacity under this section may be exempted from the requirement to install, certify, and operate a COMS if approved by the department based on the following:

(1) A particulate CEMS for measuring PM emissions is:

(A) used to demonstrate continuous compliance with any applicable emissions limitation; and

(B) installed, certified, operated, and maintained on the affected source in accordance with the requirements of:

(i) Performance Specification 11 (PS-11)*; and

(ii) Procedure 2 of 40 CFR 60, Appendix F*.

(2) For Portland cement plants, a continuous parametric monitoring system (CPMS) for measuring particulate matter (PM) emissions is:

(A) used to demonstrate compliance with any applicable emissions limitation; and

(B) installed, calibrated, certified, operated, and maintained on the affected kiln or clinker cooler emission unit in accordance with the requirements of:

(i) 40 CFR 63, Subpart LLL*; and

(ii) 326 IAC 20-27-1.

(d) The department may require, as a condition of a construction or operating permit issued under 326 IAC 2-1.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, 326 IAC 2-8, or 326 IAC 2-9 that the owner or operator of a new or existing source of air emissions monitor emissions to ensure compliance with the following:

(1) An emission limitation or standard established in one (1) of the permits listed in this subsection.

(2) Permit requirements.

(3) Monitoring requirements in 326 IAC 7.

(e) Unless explicitly stated otherwise, nothing in this rule:

(1) excuses the owner or operator of a source or emissions unit from any monitoring, record keeping, or reporting requirement that applies under any provision of the CAA or state statutes or rules; or

(2) restricts the authority of the department to impose additional or more restrictive monitoring, record keeping, testing, or reporting requirements on any owner or operator of a source or emissions unit under any other provision of the CAA, including Section 114(a)(1), or state statutes or rules, as applicable.

(f) All continuous monitoring systems must be installed and operational and have the certification testing complete under section 3 of this rule within one hundred eighty (180) days of start-up of the emissions unit.

*These documents are incorporated by reference. Copies may be obtained from the Government Publishing Office, www.gpo.gov, or are available for review at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, 100 North Senate Avenue, Thirteenth Floor, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-5-1; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2064; filed Dec 20, 2001, 4:30 p.m.: 25 IR 1596; errata filed Jan 7, 2002, 2:20 p.m.: 25 IR 1644; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA; filed Dec 16, 2013, 9:16 a.m.: 20140115-IR-326130215FRA; filed Apr 24, 2020, 4:28 p.m.: 20200429-IR-326180364FRA, eff Apr 24, 2020, see Executive Order 20-15, posted at 20200422-IR-GOV200234EOA)*

326 IAC 3-5-2 Minimum performance and operating specifications

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 2. Owners and operators of monitoring equipment installed to comply with this rule shall comply with the performance specifications and operating requirements as follows:

(1) Performance specifications set forth in 40 CFR 60, Appendix B*, shall be used to certify monitoring equipment installed pursuant to this rule; however, where reference is made to the administrator in 40 CFR 60, Appendix B*, the term "department" shall be inserted for purposes of this rule, and where continuous emissions monitors were installed prior to March 1983 for measuring opacity, the performance specifications in 40 CFR 60, Appendix B*, 1982 Edition, shall apply.

(2) Cycling times, which include the total time a monitoring system requires to sample, analyze, and record an emission measurement, shall be as follows:

(A) Continuous monitoring systems for measuring opacity shall complete a minimum of one (1) cycle of operation (sampling, analyzing, and data recording) for each successive ten (10) second period.

(B) Continuous monitoring systems that measure the following emissions shall complete a minimum of one (1) cycle of operation (sampling, analyzing, and data recording) for each successive fifteen (15) minute measuring period:

(i) Carbon dioxide (CO_2).

(ii) Carbon monoxide (CO).

(iii) Hydrogen sulfide (H_2S).

(iv) Oxides of nitrogen (NO_x).

(v) Oxygen (O_2).

(vi) Sulfur dioxide (SO_2).

(vii) Total hydrocarbons (THC).

(viii) Total reduced sulfur (TRS).

(ix) Volatile organic compounds (VOC).

(x) Particulate matter (PM).

(3) For opacity monitoring when effluent from two (2) or more affected emissions units are combined before being released to the atmosphere, the owner or operator may either install a COMS:

(A) on the combined effluent; or

(B) comprised of, and capable of combining the signals from, component transmissometers on each effluent stream.

Results shall be reported on combined effluent. This requirement shall not apply to emissions units using wet flue gas desulfurization equipment. For emissions units using wet flue gas desulfurization equipment, opacity may be reported on the combined exhaust or on individual exhausts except as provided for emissions units affected by an NSPS as described at 40 CFR 60.13(i)*. Compliance for emissions units that opt to report on the individual exhausts shall be determined on the individual exhausts based on data provided in accordance with section 7 of this rule.

(4) When the effluent from two (2) or more affected emissions units subject to the same emission standard, other than opacity, are combined before being released to the atmosphere, the owner or operator may report the results as required for each affected emissions unit or for the combined effluent.

(5) Instrument full-scale response or upper limit of concentration measurement range for all opacity monitoring systems shall be set at one hundred percent (100%) opacity if possible. If the monitoring system is required by 40 CFR 60*, 40 CFR 61*, 40 CFR 63*, or 40 CFR 75*, then the appropriate instrument span values and cycling times pursuant to the applicable part shall be used. In all cases, the manufacturer's procedures for calibration shall be followed and may result in an upscale maximum response of less than one hundred percent (100%). The minimum instrument full-scale response for gaseous monitoring systems shall be set at two hundred percent (200%) of the expected instrument data display output corresponding to the emission limitation for the emissions unit unless a request for an alternative setting that provides the following information is submitted to and approved by the department and U.S. EPA in writing:

(A) The proposed alternate instrument span value.

(B) The expected range of pollutant measured concentrations.

(C) The control device in use.

(D) The process to be controlled.

(E) The location of the monitor, such as stack or duct.

(F) The reason for requesting the alternate instrument span value.

(6) The department and U.S. EPA may approve locations for installing continuous monitoring systems or monitoring devices that vary from locations provided under the performance specifications of 40 CFR 60, Appendix B*, upon a demonstration by the owner or operator that installation at alternative locations will enable accurate and representative measurements.

(7) Owners or operators of affected emissions units shall conduct CEMS performance evaluations, upon the request of the department or U.S. EPA, to demonstrate continuing compliance of the CEMS with performance specifications as follows:

(A) A performance evaluation is a quantitative and qualitative evaluation of the performance of the continuous emission monitor in terms of:

(i) accuracy;

(ii) precision;

(iii) reliability;

(iv) representativeness; and

(v) comparability;

of the data acquired by the monitoring system.

(B) The department or U.S. EPA may request owners or operators of affected emissions units, as described in section 1(a) of this rule, to conduct CEMS performance evaluations if the department has reason to believe, based on review of monitoring data, quality assurance data, inspections, or other information, that the CEMS is malfunctioning or may be providing invalid data over an extended period.

(C) The owner or operator of an affected emissions unit shall submit a written report containing the complete information of the performance evaluations to the department within forty-five (45) days after the test date. The department or U.S. EPA may conduct performance evaluations of the CEMS at any time in order to verify the continued compliance of the systems with the performance specifications.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-5-2; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2066; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1566; filed Aug 26, 2004, 11:30 a.m.: 28 IR 32; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-3 Monitor system certification

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 3. Monitor system certification requirements apply to sources or emissions units subject to this rule as follows:

(1) The owner or operator shall conduct the applicable performance specifications tests in accordance with the procedures specified in 40 CFR 60*, or other applicable federal regulations, for the required monitoring system as follows:

(A) Not later than one hundred eighty (180) days after emissions unit start-up or initial monitor installation date.

(B) Not later than forty-five (45) emissions unit operating days after the date of monitor replacement, or significant monitor repair, such as:

(i) replacing or switching a major component of the monitor; or

(ii) major overhaul or reconditioning of the monitor that affects the ability of the analyzer to measure emissions accurately.

(2) The owner or operator shall notify the department in writing as follows:

(A) No less than fourteen (14) days in advance of the start of continuous opacity monitor system (COMS) certification.

(B) No less than thirty-five (35) days in advance of the certification of a gaseous monitoring system.

(3) The owner or operator shall submit all of the required test data and information in the form of a written report to the department for review and approval within forty-five (45) days of completion of the performance specification test.

(4) The department shall issue a written notice of certification status upon review of the complete certification test report. A required monitoring system is certified when the department issues a certification letter stating that the required monitoring system, including all applicable components, has satisfactorily met all federal and state monitoring requirements.

(5) The department may decertify a required monitoring system if an audit or performance evaluation reveals that the monitoring system or a component thereof does not meet applicable performance specifications or requirements. The owner or operator shall repeat the certification process for the required monitoring system within forty-five (45) days of the date of the department's decertification of the required monitoring system.

*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-5-3; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2067; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 33; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-4 Standard operating procedures
Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 4. (a) Within ninety (90) days after monitor installation, a complete, written continuous monitoring standard operating procedure (SOP) must be submitted to the department by the owner or operator of:

(1) each affected source or emissions unit specified in section 1(a) of this rule; or

(2) any other source or emissions unit required to monitor emissions on a continuous basis.

(b) If revisions are made to the SOP, the owner or operator must submit updates to the department within two (2) years of the revisions.

(c) At a minimum, the SOP shall describe complete step-by-step procedures and operations as follows:

(1) A description of the emissions unit monitored.

(2) A listing of the following for each monitor:

(A) Manufacturer's name.

(B) Model number.

(C) Serial number.

(D) Monitoring location.

(E) Data handling and acquisition system.

(3) Examples of all reporting and log forms.

(4) Record keeping and reporting procedures that include the following:

(A) Reporting of instrument precision and accuracy.

(B) Reporting of emissions data.

(5) Methods and procedures for analysis and data acquisition.

(6) Calibration procedures that include the following:

(A) Calibration error limits and linearity.

(B) Calibration gas type, gas quality, and traceability to the National Institute of Standards and Technology.

(C) Calibration frequency.

(D) Criteria for recalibration, and analysis procedures to periodically verify the accuracy of span and calibration standards.

(7) Operation procedures that include:

(A) daily procedures;

(B) quantifying and recording daily zero (0) and high level drift that meet the requirements of:

(i) 40 CFR 60, Appendix B*, Performance Specification 2, Section 4.2; or

(ii) other applicable regulations; and

(C) other operating parameter checks indicating correct operational status.

(8) Quality control and quality assurance procedures that include the following:

(A) A statement of quality policy and objectives.

(B) Organization and responsibilities description.

(C) Calibration and span and zero (0) drift criteria.

(D) Excessive drift criteria.

(E) Corrective action for excessive drift.

(F) Precision and accuracy audits.

(G) Corrective action for accuracy audits failure.

(H) Data validity criteria.

(I) Participation in department audits.

(J) Data recording and calculation audits.

(9) Preventive maintenance procedures and corrective maintenance procedures that include those procedures taken to ensure continuous operation and to minimize malfunctions.

(10) A listing of the manufacturer's recommended spare parts inventory.

(d) If a *[sic, an]* emissions unit owner or operator fails to submit a SOP or submits a SOP that fails to address the procedures and operations provided under subsection (c), the department may require a performance evaluation pursuant to section 2 of this rule.

*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-5-4; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2068; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 34; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-5 Quality assurance requirements

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 5. (a) Except for affected units under 40 CFR 75* that are also emissions units subject to this rule, quality assurance requirements specified in this section and 40 CFR 60*, Appendix F, apply to continuous emission monitors that monitor the following:

(1) Carbon dioxide (CO_2).

(2) Carbon monoxide (CO).

(3) Hydrogen sulfide (H_2S).

(4) Nitrogen oxide (NO_x).

(5) Oxygen (O_2).

(6) Sulfur dioxide (SO_2).

(7) Total hydrocarbons (THC).

(8) Total reduced sulfur (TRS).

(9) Volatile organic compounds (VOC).

(10) Particulate matter (PM).

(b) Emissions units that are also subject to 40 CFR 75* shall follow the quality assurance procedures of 40 CFR 75* and report the results in accordance with subsection (f).

(c) Quality control (QC) requirements for COMS are as follows:

(1) For calibration drift (CD) assessment, the COMS shall be checked at least once daily. The CD shall be quantified and recorded at zero (0) (or low level) and upscale level opacity. The COMS shall be adjusted whenever the CD exceeds the specification of 40 CFR 60, Appendix B*, Performance Specification 1 (PS-1), and the COMS shall be declared out of control when the CD exceeds twice the specification of PS-1. Corrective actions, followed by a validating CD assessment, are required when the COMS is out of control.

(2) For fault indicators assessment, the fault lamp indicators, data acquisition system error messages, and other system self-diagnostic indicators shall be checked at least daily. Appropriate corrective actions shall be taken when the COMS is operating outside the preset limits.

(3) For performance audits, checks of the individual COMS components and factors affecting the accuracy of the monitoring data, as described in this subdivision, shall be conducted, at a minimum, on a calendar quarter basis. The absolute minimum checks included in the performance audit are as follows:

(A) The status of the optical alignment of the monitor components shall be checked and recorded according to the procedure specified by the monitor manufacturer. Monitor components must be realigned as necessary.

(B) The apparent effluent opacity shall be compared and recorded before and after cleaning each of the exposed optical surfaces. The total optical surface dust accumulation shall be determined by summing up the apparent reductions in opacity for all of the optical surfaces that are cleaned.

(C) The zero (0) and upscale response errors shall be determined and recorded according to the CD procedures. The errors are defined as the difference (in percent opacity) between the correct value and the observed value for the zero (0) and high level calibration checks.

(D) The value of the zero (0) compensation applied at the time of the audit shall be calculated as equivalent opacity, corrected to stack exit conditions, according to the procedures specified by the manufacturer. The compensation applied to the effluent recorded by the monitor system shall be recorded.

(E) The optical pathlength correction ratio (OPLR) shall be computed from the monitor pathlength and stack exit diameter and shall be compared, and the difference recorded, to the monitor setup OPLR value. The stack exit correlation error shall be determined as the absolute value of the difference between the measured value and the correct value, expressed as a percentage of the correct value.

(F) A three-point calibration error test of the COMS shall be conducted. Three (3) neutral density filters meeting the requirements of PS-1 shall be placed in the COMS light beam path. The monitor response shall be independently recorded from the COMS permanent data recorder. A total of five (5) nonconsecutive readings for each filter shall be made. The low-range, mid-range, and high-range calibration error results shall be computed as the mean difference and ninety-five percent (95%) confidence interval for the difference between the expected and the actual responses of the monitor as corrected to stack exit conditions. These values shall be calculated using the procedure of PS-1, Section 8.0. The following are requirements for these values:

(i) The calibration error test requires the installation of an external calibration audit device (zero-jig). The zero-jig shall be adjusted to provide the same zero (0) response as the monitor's simulated zero (0).

(ii) Use calibration attenuators, that is, neutral density filters or screens, with values that have been determined according to PS-1, Section 7.1.3, "Attenuator Calibration", and produce simulated opacities (as corrected to stack exit conditions) in the ranges listed in Table 1-2 in PS-1.

(iii) The stability of the attenuator values shall be checked at least once per year according to the procedures specified in PS-1. The attenuators shall be recalibrated if the stability checks indicate a change of two percent (2%) opacity or greater.

(4) The following are requirements for monitor acceptance criteria:

(A) The following criteria are to be used to determine if the COMS audit results are acceptable:

TABLE 1. PERFORMANCE AUDIT CRITERIA

Stack Exit Correlation Error	≤ 2 percent
Zero and Upscale Responses	≤ 2 percent opacity
Zero Compensation	≤ 4 percent opacity
Optical Alignment	Misalignment error ≤ 2 percent opacity
Optical Surface Dust Accumulation	≤ 4 percent opacity
Calibration Error	≤ 3 percent opacity

(B) The COMS is out of control whenever the results of a quarterly performance audit indicate noncompliance

with any of the performance assessment criteria of Table 1 in clause (A). If the COMS is out of control, the owner or operator shall take the action necessary to eliminate the problem. Following corrective action, the source or emissions unit owner or operator shall reconduct the appropriate failed portion of the audit and other applicable portions to determine whether the COMS is operating properly and within specifications. The COMS owner or operator shall record both audit results showing the COMS to be out of control and the results following corrective action.

(C) Repeated audit failures, that is, out of control conditions revealed in the quarterly audits, indicate that the QC procedures are inadequate or the COMS is incapable of providing quality data. The source or emissions unit owner or operator shall:

(i) increase the frequency of the QC procedures in this subsection until the performance criteria are maintained; or

(ii) modify or replace the COMS whenever two (2) consecutive quarters of unacceptable performance occur.

(5) The performance audit calculations contained in PS-1, Section 8 shall be followed.

(d) Except where 40 CFR 75* is applicable for affected emissions units under the acid rain program, quality control requirements for flow monitoring systems are as follows:

(1) For CD assessment, the flow monitoring system shall be checked at least once daily. The CD shall be quantified and recorded at zero (0) (or low level) and upscale level. The flow monitoring systems shall be adjusted whenever the CD exceeds the specification of 40 CFR 60, Appendix B, Performance Specification 6 (PS-6)*, and the flow monitoring systems shall be declared out of control when the CD exceeds twice the specification of PS-6. Corrective actions, followed by a validating CD assessment, are required when the flow monitoring system is out of control.

(2) An annual relative accuracy test.

(e) The owner or operator of a peaking unit, as defined in 326 IAC 3-4-1(13), shall conduct a relative accuracy test audit (RATA) on any required CEMS as specified in 40 CFR 60, Appendix F* or as follows:

(1) For each primary and redundant backup monitoring system and each sorbent trap monitoring system, RATAs shall be performed once every four (4) successive QA operating quarters.

(2) A calendar quarter that does not qualify as a QA operating quarter shall be excluded in determining the deadline for the next RATA.

(3) Not more than eight (8) successive calendar quarters shall elapse after the quarter in which a RATA was last performed without a subsequent RATA having been conducted.

(4) If a 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 seven hundred twenty (720) unit, or stack, operating hour grace period, as provided in 40 CFR 75, Appendix B, Section 2.3.3,* following the end of the eighth successive elapsed calendar quarter, or data from the CEMS will become invalid.

(f) Reporting requirements for performance audits are as follows:

(1) Owners or operators of emissions units required to conduct:

(A) cylinder gas audit;

(B) relative accuracy test audit; or

(C) continuous opacity monitor calibration error audit;

on continuous emission monitors shall prepare a written report of the results of the performance audit for each calendar quarter, or for other periods required by the department. The owner or operator shall submit quarterly reports to the department within thirty (30) calendar days after the end of each quarter for cylinder gas audits and continuous opacity monitor calibration error audits and within forty-five (45) calendar days after the completion of the test for relative accuracy test audits.

(2) The performance audit report shall contain the following information:

(A) Plant and monitor information, including the following:

(i) The plant name and address.

(ii) The monitor brand or manufacturer's name, model, and serial number.

(iii) The monitor span.

(iv) The monitor location.

(B) Performance audit information, including the following:

(i) The auditor's name.

(ii) A copy of the audit standard's certification.

(iii) All data used to calculate the audit results.

(iv) The audit results and an indication if the monitor passed or failed the audit. If the performance audit results show the CEMS or COMS to be out of control, the CEMS or COMS owner or operator

shall report both the audit results showing the CEMS or COMS to be out of control and the results of the audit following corrective action showing the COMS to be operating within specification.

(v) Any corrective actions performed as the result of a failed audit.

(g) Whenever a relative accuracy test audit of any continuous emission monitor listed in subsection (a) or (e) is performed, the department must be notified in accordance with the protocol requirements of 326 IAC 3-6-2 at least thirty-five (35) days prior to the audit.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-5-5; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2069; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 34; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-6 Record keeping requirements

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 6. (a) On and after the certification of a monitoring system, the owner or operator of a source or emissions unit subject to this rule shall maintain records, including raw data, of all monitoring data and supporting information for a minimum of five (5) years from the date of any of the following:

(1) A monitoring sample.

(2) A measurement.

(3) A test.

(4) A certification.

(5) A report.

(6) Any other activity required under this article.

(b) The records described in subsection (a) shall include the following:

(1) All documentation relating to:

(A) design, installation, and testing of all elements of the monitoring system; and

(B) required corrective action or compliance plan activities.

(2) All maintenance logs, calibration checks, and other required quality assurance activities.

(3) All records of corrective and preventive action.

(4) A log of plant operations, including emission unit or monitoring system downtime with the following information:

(A) Date of emissions unit or monitoring system downtime.

(B) Time of commencement and completion of each downtime.

(C) Reason for each downtime.

(D) Nature of system repairs and adjustments.

(c) The owner or operator of a source or emissions unit subject to this rule shall maintain the records required by this section at the source and make them available to the department or the U.S. EPA upon request. *(Air Pollution Control Division; 326 IAC 3-5-6; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2071; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-7 Reporting requirements

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 7. (a) The owner or operator of a source or emissions unit subject to this rule shall submit a monitoring report to the department in accordance with this section.

(b) The owner or operator shall submit the monitoring report in accordance with the following requirements:

(1) The owner or operator of sources or emissions units subject to the requirements of section 1 of this rule shall report excess emissions no less frequently than quarterly. For the owner or operator of a source or emissions unit for which quarterly reports are required, the reports shall be:

(A) submitted by the source or emissions unit owner or operator to the department; and

(B) postmarked or delivered by other means no later than thirty (30) calendar days following the last day of the reporting period.

(2) If a permit specifies or a rule requires more frequent reports, the reports shall be:

(A) submitted by the source or emissions unit owner or operator to the department; and

(B) postmarked or delivered by other means no later than fifteen (15) calendar days after the end of each month.

(3) Gaseous excess emissions data reports shall be reported using three (3) hour block periods ending at:

(A) 03:00;
(B) 06:00;
(C) 09:00;
(D) 12:00;
(E) 15:00;
(F) 18:00;
(G) 21:00; and
(H) 24:00;

unless the emissions unit must demonstrate compliance with a different averaging period as specified by an applicable rule or permit condition, such as daily (twenty-four (24) hour) average or thirty (30) day averages.

(c) The monitoring report shall contain the following continuous monitoring information summaries, with all times reported in real time:

(1) Monitored emission unit operation time during the reporting period.

(2) Excess emissions or parameters, as applicable, reported in units of the standard, or the applicable parameter unit as follows:

(A) Date of excess emissions, or other applicable dates.
(B) Time of commencement and completion for each applicable parameter deviation or excess emission data.

(3) Magnitude of each excess emission as follows:

(A) For opacity as follows:

(i) The actual percent opacity of all six (6) minute (block) averages exceeding the applicable opacity limit shall be reported. If an exceedance occurs continuously beyond one (1) six (6) minute period, the percent opacity for each six (6) minute period or the highest six (6) minute average opacity for the entire period shall be reported.

(ii) For department approved opacity averaging times other than six (6) minutes, the actual percent opacity of each averaging period in excess of the applicable limit shall be reported.

(iii) A summary by cause shall be prepared and submitted as part of this report itemizing exceedances by cause.

(B) For gaseous emissions, the excess emissions, in units of the applicable standard, must be reported based on the applicable averaging time, in addition to any other reporting requirements that may be applicable. The averaging time is specified in the applicable federal or state rules, or in the operating permit for the emissions unit.

(4) Continuous monitoring system instrument downtime, except for zero (0) and span checks, shall include the following:

(A) Date of downtime.
(B) Time of commencement.
(C) Duration of each downtime.
(D) Reasons for each downtime.
(E) Nature of system repairs and adjustments.

(d) If there are no excess emissions or monitor downtime in a reporting period, the owner or operator of a emissions unit subject to this rule shall submit a report indicating that no excess emissions or downtime incidents occurred in the reporting period that includes the start and end dates of the time period. *(Air Pollution Control Division; 326 IAC 3-5-7; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2071; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-5-8 Operation and maintenance of continuous emission monitoring and continuous opacity monitoring systems

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 8. (a) This section applies to the operation and maintenance of CEMS and COMS.

(b) The owner or operator of a CEMS or COMS required by federal or state regulations or permit shall:

(1) install;
(2) calibrate;
(3) maintain;
(4) operate; and
(5) certify;

such CEMS or COMS, and related equipment in accordance with applicable federal regulations, this rule, and any applicable

permits.

(c) Except for periods when the:

(1) affected emissions unit is not operating;

(2) affected source or emissions unit is operating under a scenario that does not require CEMS or COMS;

(3) the owner or operator is repairing the CEMS or COMS;

(4) CEMS or COMS is experiencing a malfunction; or

(5) owner/operator is conducting CEMS or COMS quality assurance and quality control activities, including, but not limited to:

(A) calibration checks;

(B) zero and span adjustments;

(C) calibration gas audits; or

(D) other required quality assurance/quality control activities;

all CEMS and COMS shall be in continuous operation.

(d) Except as otherwise provided by a rule or provided specifically in a permit, if a CEMS or COMS is malfunctioning or will be down for calibration, maintenance, or repairs for a period of twenty-four (24) hours or more, the owner or operator of the CEMS or COMS shall perform supplemental monitoring in accordance with the permit.

(e) The owner or operator of the CEMS or COMS shall do the following:

(1) Keep records:

(A) in accordance with section 6(b) of this rule; and

(B) that describe the supplemental monitoring implemented during any downtime to assure compliance with applicable emission limitations.

(2) Submit reports, as applicable, in accordance with section 7 of this rule.

(Air Pollution Control Division; 326 IAC 3-5-8; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)

Rule 6. Source Sampling Procedures

326 IAC 3-6-1 Applicability; test procedures

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 1. This rule applies to any emissions unit emissions testing performed to determine compliance with applicable emission limitations contained in this title, or for any other purpose requiring review and approval by the department. The owner or operator of an emissions unit shall conduct emission tests subject to this rule in accordance with any applicable procedures and analysis methods specified in 40 CFR 51*, 40 CFR 60*, 40 CFR 61*, 40 CFR 63*, 40 CFR 75*, or other procedures approved by the department and U.S. EPA.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-6-1; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2072; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 36; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-6-2 Source sampling protocols

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 2. (a) When an emissions test is to be performed by any person other than the department, the source or emissions unit owner or operator shall complete a test protocol form and submit the test protocol form to the department not later than thirty-five (35) days prior to the intended test date unless the applicable rule requires additional notice. The test protocol shall:

(1) be on a form approved by the department; or

(2) contain information equivalent to that required on the form approved by the department.

The department shall evaluate and approve the test protocol prior to it being implemented. If the department does not notify the owner or operator prior to the test date that the protocol has not been approved, the protocol is deemed approved.

(b) After evaluating the completed test protocol form, the department may:

(1) inspect the test site; or

(2) require additional conditions, including, but not limited to:

(A) requiring reasonable modifications to the stack or duct to obtain acceptable test conditions;

(B) requiring additional tests to allow for adverse conditions;

(C) keeping process operating parameter records, operating logs, or charts during the test;

(D) placing conditions on control equipment operation to make the operation of control equipment representative of normal operation; or

(E) recording specified control equipment operating parameters during the test.

(c) If the department requires modification to:

(1) test methods;

(2) analytical methods;

(3) operational parameters; or

(4) other matters included in the emissions test protocol;

the department shall notify the source or emissions unit owner or operator and the testing firm by letter or telephone not later than twenty-one (21) days prior to the test date.

(d) If the source or emissions unit owner or operator or test firm desires to make a change to previously submitted procedures or conditions, the department shall be notified of the change as soon as practicable prior to the intended emissions test date. The changes shall not be made unless approved by the department prior to the emission test.

(e) Reasonable changes in the emissions test protocol that result from emergency conditions during the test shall be approved by the department if a department staff person is available at the test site, before the test may proceed.

(f) Post-test approval may be granted based on reasonable changes resulting from emergency or reasonably unforeseeable conditions during the test.

(g) The department reserves the right to conduct any portion of the reference method tests using equipment supplied by the department. Notice of acceptable test procedures shall be given to the owner or operator of the source or emissions unit and its testing representative.

(h) The source or emissions unit owner or operator shall schedule an actual test date and time period and notify the department not later than fourteen (14) days prior to the actual test date. In the event that a previously scheduled test must be canceled and rescheduled, the owner or operator of the source or emissions unit shall notify the department no less than fourteen (14) days in advance of the rescheduled test date. Tests rescheduled for less than fourteen (14) days after notifying the department of the rescheduled test date must be approved by the department. *(Air Pollution Control Division; 326 IAC 3-6-2; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2072; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-6-3 Emission testing

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 3. (a) Department staff may observe field test procedures and source or emissions unit operation during the emission test.

(b) The owner or operator of a source or emissions unit shall conduct all emission tests as follows:

(1) The emissions unit being tested shall be operating according to clause (A) or (B), except as allowed under clause (C), as follows:

(A) At a minimum, ninety-five percent (95%) of the permitted maximum emissions unit operating capacity description.

(B) Under conditions of worst case emissions, and if the worst case emission condition is not known, then the worst case emission condition shall be assumed to be the maximum process or operating rate of the emissions unit as listed in the permit's emissions unit description.

(C) Under other capacities or conditions as specified in an applicable requirement or approved by the department. As used in this clause, "capacity" means the design capacity of the emissions unit or other operating capacities agreed to by the owner or operator of the emissions unit and the department, including, but not limited to, process conditions when the department believes that changes in the operating capacities or operating conditions have the potential to affect emission levels.

(2) All test runs for a given pollutant shall be conducted within forty-eight (48) hours unless process variables or mandatory test lengths of greater than two (2) hours make this impracticable. In these cases, the testing shall be conducted on consecutive days. Other periods or duration may be approved by the commissioner if specific testing circumstances require a longer testing time frame.

(c) Emissions units subject to 326 IAC 12, 326 IAC 14, or 326 IAC 20 shall be tested under conditions as specified in the applicable provision for that emissions unit in 40 CFR 60*, 40 CFR 61*, or 40 CFR 63* and this rule where appropriate.

(d) The owner or operator of a source or emissions unit shall make available at the test site calibration results of the

various sampling components. The information shall include the following:

(1) The date or dates the test was performed.

(2) The methods used.

(3) The calibration data.

(4) The results.

All components requiring calibration shall be calibrated within sixty (60) days prior to the actual test date. Post-test calibrations shall be performed on the components not later than forty-five (45) days after the actual test date. Components requiring calibration are listed in the federal test methods specified in section 5 of this rule.

(e) The department may perform or require the performance of audits of equipment or procedures associated with the test series up to the time of the actual performance of the test, between test runs, or following the test series. The department reserves the right to perform or observe all associated analyses.

(f) The original or a photocopy of the raw field data generated during the test series shall be provided to the department observer upon request if the request may be reasonably met under the existing circumstances.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-6-3; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2073; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 37; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-6-4 Reporting

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 4. (a) All emission tests for which a test protocol form was submitted to the department under section 2 of this rule shall be reported to the department in the form of an emission test report containing the following information:

(1) The reported testing methods and results certified as true and accurate and in compliance with this rule by the person responsible for conducting the emissions test.

(2) Information regarding the test, including the following:

(A) A stack test result summary table that compares the measured emissions, in units consistent with the applicable emissions limitations, to the emissions limitations.

(B) A description of the emissions unit or units being tested.

(C) The date or dates on which the test was performed.

(D) The type of tests conducted.

(E) The type of process and control equipment utilized.

(F) The source name and location.

(G) The purpose of the tests.

(H) The test participants and their titles.

(3) Tabulated data and results, including the following:

(A) The process weight rate or heat input rate.

(B) The referenced or derived conversion factors.

(C) The stack gas flow rate.

(D) Measured emissions given in units consistent with the applicable emission limitations.

(E) The average value of emissions from any continuous gaseous emissions monitoring system in units consistent with the applicable emission limitations if applicable to the pollutant being tested.

(F) If applicable, visible emissions observations or six (6) minute average continuous opacity monitor readings.

(4) A description of process and control devices, including the following:

(A) A process flow diagram.

(B) The maximum design capacities.

(C) A fuel analysis and heat value for heat input rate determinations.

(D) The process and control equipment operating conditions.

(E) A discussion of variations from normal plant operations.

(F) The stack height.

(G) The exit diameter.

(H) The volumetric flow rate (cubic feet per minute).

(I) The exit temperature.

(J) The exit velocity.

(5) A description of sampling methods used, including the following:

(A) A brief discussion of the analytical procedures with justifications for any variance from reference method procedures.

(B) Specification of the following:

(i) The number of sampling points.

(ii) The time per point.

(iii) The total sampling time per run.

(C) A cross-sectional diagram of the sampling site showing sampling points.

(D) A diagram showing the following:

(i) The stack dimensions.

(ii) The sampling location.

(iii) The distance from the nearest flow disturbance upstream and downstream of the sampling points.

(iv) The diagram of the sampling train.

(6) Sampling and analytical procedures used, including the following:

(A) Results and calculations, including the following:

(i) Units consistent with the applicable emission limitation.

(ii) One (1) complete calculation using actual data for each type of test performed.

(iii) Raw production data signed by the source official.

(iv) Photocopies of all actual field data.

(B) A laboratory report, including the following:

(i) The chain of custody.

(ii) Copies of all calibration data for equipment used in sampling as described in section 3(d) of this rule.

(C) Applicable rules and regulations showing the emission limitations.

(D) If applicable, copies of visible emissions evaluations or opacity monitor readings.

(E) Copies of any continuous gaseous emissions monitoring system readings for gaseous pollutant tests.

(b) The owner or operator of a source or emissions unit shall submit all emission test reports to the department not later than forty-five (45) days after the completion of the testing. An extension may be granted by the department if the owner or operator of the source or emissions unit submits to the department a reasonable written explanation for the requested extension not later than five (5) days prior to the end of the initial forty-five (45) day period. *(Air Pollution Control Division; 326 IAC 3-6-4; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2073; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-6-5 Specific testing procedures; particulate matter; PM_{10}; $PM_{2.5}$; sulfur dioxide; nitrogen oxides; volatile organic compounds

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 5. (a) Tests for particulate matter (PM), PM_{10}, and $PM_{2.5}$ shall be conducted in accordance with the following procedures:

(1) For PM: 40 CFR 60, Appendix A, Method 5*, 5A*, 5B*, 5C*, 5D*, 5E*, or 5F*, or Method 17*, as applicable, or other procedures approved by the department and U.S. EPA.

(2) For PM_{10} and $PM_{2.5}$: 40 CFR 51, Appendix M, Method 201* or 201A*, and 202*. The measurement of condensable PM_{10} using the procedures described in Method 202* is not required if the applicable emission limitation is contained at 326 IAC 6.8-2, unless otherwise specified by 326 IAC 6.5 or 326 IAC 6.8. 40 CFR 60, Appendix A, Method 5*, in conjunction with Method 202*, may also be used, subject to the approval of the department and U.S. EPA. Other procedures to measure PM_{10} and $PM_{2.5}$ may be approved by the department and U.S. EPA.

(3) Visible emissions (VE) evaluations shall be performed in conjunction with a PM, PM_{10}, $PM_{2.5}$, or other mass emission rate test of air pollutants, as required by the department. The VE evaluations shall be conducted by a qualified observer in accordance with the procedures contained in 326 IAC 5-1-4. VE readings shall be continuously recorded for at least thirty (30) minutes per hour of sampling time for each sampling repetition, unless a longer time is otherwise mandated by federal regulation. A waiver from this requirement may be granted by the department or on-site department staff person if adverse conditions exist that would invalidate the VE readings. Complete waivers from the requirement to conduct VE readings during a compliance test may not be granted for the emissions unit required to complete opacity testing pursuant to 40 CFR 60.8* or 40 CFR 63*. VE readings are not required for units when operating a certified PM CEMS. Emissions units equipped with continuous opacity monitors may submit the six (6) minute integrated readings

of the monitors during the sampling period, instead of performing VE evaluations, provided:

(A) the monitoring system meets the performance specifications as specified in 40 CFR 60, Appendix B*, and is, or will be, certified by the department;

(B) the monitor readings submitted with the test include a zero (0) and upscale calibration check before the first test run and following the end of the final run; and

(C) if more than one (1) day of testing is required to complete the three (3) runs, the zero (0) and span checks shall be performed at the beginning of each day's testing and at the conclusion of each day's final run.

(4) At least three (3) repetitions of the test shall be performed under consistent emissions unit operating conditions unless otherwise allowed by the department. For boiler emissions testing, at least one (1) of the three (3) repetitions shall be conducted during a normal sootblowing cycle that is consistent with frequency and duration normally experienced.

(5) At Richmond Power and Light's Whitewater Generating Station, when sootblowing occurs during one (1) of the three (3) repetitions, emission test results shall be evaluated using either a time weighted averaging period (TWAP) or a straight averaging technique. When using TWAP, the following equation shall be used to ensure proper weighting of an intermittent cleaning cycle performance test run regardless of the length of the cleaning cycle and regardless of the number and duration of the test runs made on the unit. When using TWAP, the representative pounds per hour of particulate emissions shall be calculated using the following equation:

Where:	E	=	Pounds per hour of particulate emissions.
	E_{cc}	=	Average E of sample containing cleaning cycle.
	E_{ncc}	=	Average E of sample containing no cleaning cycle.
	A	=	Hours of cleaning cycle operation during sample.
	B	=	Hours with no cleaning cycle operation during sample.
	R	=	Average hours of operation per twenty-four (24) hours.
	S	=	Average hours of cleaning cycle operation per twenty-four (24) hours.

(6) Only those fuels representative of normal fuel quality used during normal operations shall be combusted.

(7) During each repetition, each sampling point shall be sampled for a minimum of two (2) minutes.

(8) The total test time per repetition shall be no less than sixty (60) minutes.

(9) The total sample volume per repetition shall be no less than thirty (30) dry standard cubic feet (dscf).

(10) The total particulate weight collected from the sampling nozzle, probe, cyclone (if used), filter holder (front half), filter, connecting glassware, and, if required in subdivision (2), the impinger catch, shall be reported to the department.

(b) The owner or operator shall conduct sulfur dioxide (SO_2) tests in accordance with the following procedures:

(1) 40 CFR 60, Appendix A, Method 6*, 6A*, 6C*, or 8*, as applicable, or other procedures approved by the department and U.S. EPA.

(2) At least three (3) repetitions of two (2) samples, each according to 40 CFR 60, Appendix A, Method 6* or 6A*, or three (3) repetitions according to 40 CFR 60, Appendix A, Method 6C* or 8*, performed under identical emissions unit operating conditions, shall constitute a test. For boiler emissions testing, only those fuels representative of fuel quality during normal operations shall be combusted.

(3) The total test time per repetition shall be as follows:

(A) For tests using 40 CFR 60, Appendix A, Method 6* or 6A*, a minimum of twenty (20) minutes per run with a thirty (30) minute interval between each run.

(B) For tests using 40 CFR 60, Appendix A, Method 6C*, a minimum of sixty (60) minutes per run.

(C) For tests using 40 CFR 60, Appendix A, Method 8*, a minimum of sixty (60) minutes per run, with the following criteria:

(i) During each of the repetitions, each sampling point shall be sampled for a minimum of two (2) minutes.

(ii) The total sample volume per repetition shall be no less than forty (40) dry standard cubic feet (dscf).

(iii) During each of the repetitions, the sample rate shall not exceed one (1) cubic foot per minute (cfm).

(c) The owner or operator shall conduct nitrogen oxide (NO_x) tests according to the following procedures:

(1) 40 CFR 60, Appendix A, Method 7*, 7A*, 7B*, 7C*, or 7E*, as applicable, or other procedures approved by the department and U.S. EPA.

(2) For Methods 7*, 7A*, 7B*, or 7C*, at least three (3) repetitions of four (4) samples each shall constitute a test.

(3) For Method 7E*, three (3) test runs, each a minimum of sixty (60) minutes, shall constitute a test.

(d) The owner or operator shall conduct volatile organic compounds (VOC) emissions tests in accordance with the following procedures:

(1) 40 CFR 60, Appendix A, Method 25*, or other procedures approved by the department and U.S. EPA, shall be used for the total nonmethane organic emissions.

(2) At least three (3) samples shall be collected and analyzed.

(3) The total test time per repetition shall be a minimum of sixty (60) minutes.

(4) Bulk gasoline terminals subject to 326 IAC 20-10 shall be tested in accordance with 40 CFR 63, Subpart R*. All other bulk gasoline terminals shall be tested in accordance with the New Source Performance Standards (NSPS) at 40 CFR 60, Subpart XX*. During all compliance tests, 40 CFR 60, Appendix A, Method 21* shall be used for determining whether there are any leaks from the hatches or flanges of the gasoline transports. If any leak is detected, the transport shall not be used for the capacity of the compliance test of the bulk gasoline terminal. The threshold for leaks shall be as follows:

(A) Five hundred (500) parts per million methane for all bulk gasoline terminals subject to 40 CFR 63, Subpart R*.

(B) Ten thousand (10,000) parts per million (as methane) for all bulk gasoline terminals subject to 40 CFR 60, Subpart XX* and for all other bulk gasoline terminals.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-6-5; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2074; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 37; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

Rule 7. Fuel Sampling and Analysis Procedures

326 IAC 3-7-1 Applicability

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 1. This rule applies to fuel sampling and analysis that is performed to determine compliance with the emission limitations specified in 326 IAC 7. *(Air Pollution Control Division; 326 IAC 3-7-1; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2075; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-7-2 Coal sampling and analysis methods

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 2. (a) Owners or operators of coal sampling systems for sources with total coal-fired capacity greater than or equal to one thousand five hundred (1,500) million British thermal units (Btu) per hour actual heat input shall follow procedures specified in ASTM D2234-89*, "Standard Methods for Collection of a Gross Sample of Coal", unless otherwise provided in section 3 of this rule. Additionally, the coal sampling system shall meet the following requirements:

(1) The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the emissions unit may be obtained. A single as-bunkered sampling station may be used to represent the coal to be combusted by multiple emissions units using the same stockpile feed system.

(2) The increment collection method to be used is specified in ASTM D2234-89*, Table 1, I-A-1, I-B-1, or I-C-1.

(3) The opening of the sampling device shall be at least two and one-half (2.5) times the top-size of the coal and not less than one and one-fourth (1.25) inches.

(4) The sampling device shall have sufficient capacity to completely retain or entirely pass the increment without loss or spillage.

(5) The velocity with which the cross-stream cutting instrument travels through the stream shall not exceed eighteen (18) inches per second. The velocity requirement shall not apply to a swing-arm sampler or to a sampler whose cutter opening is perpendicular to the stream of coal. Owners or operators of all coal sampling systems shall detail the proper operating procedures in the standard operating procedures document required under section 5 of this rule.

(6) Increments obtained during the sampling period shall be protected from changes in composition to maintain the integrity of constituent characteristics required to convert sample sulfur content to units of the applicable emission standard.

(7) A comparison of weight or volume of collected sample with that of the total flow of coal shall be conducted at a

minimum of one (1) time every two (2) weeks to assure a constant sampling ratio is maintained for increments composited into a sample representing a single twenty-four (24) hour period.

(8) A routine inspection of the sampling system shall be established to meet requirements and guidelines specified in ASTM D4702-87*, "Guide for Inspecting Mechanical Coal Sampling Systems that Use Cross-Cut Sample Cutters for Conformance with Current ASTM Methods".

(9) Composite samples shall be collected for analysis at a minimum of one (1) time per twenty-four (24) hour period.

(b) Owners or operators of coal sampling systems for sources with total coal-fired capacity between one hundred (100) and one thousand five hundred (1,500) million Btu per hour actual heat input shall comply with requirements:

(1) in subsection (a);

(2) in section 3 of this rule; or

(3) shall meet the following minimum requirements:

(A) The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the emissions unit may be obtained. A single as-bunkered or as-burned sampling station may be used to represent the coal to be combusted by multiple emissions units using the same stockpile feed system.

(B) Coal shall be sampled at least three (3) times per day and at least one (1) time per eight (8) hour period unless no coal is bunkered during the preceding eight (8) hour period.

(C) Minimum sample size shall be five hundred (500) grams.

(D) Samples shall be composited and analyzed at the end of each calendar month.

(c) Coal samples shall be prepared for analysis in accordance with procedures specified in ASTM D2013-86*, "Standard Method of Preparing Coal Samples for Analysis". The preparation of samples shall meet the following requirements:

(1) Samples shall be prepared in accordance with ASTM D2013-86*, Procedure A or Procedure B.

(2) Sample preparation shall be checked at weekly intervals by performing a split sample of the twenty-four (24) hour composite sample and preparing and analyzing these two (2) identically.

(d) The heat content of coal samples shall be determined in accordance with procedures specified in ASTM D2015-95*, "Standard Test Method for Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter", or ASTM D3286-91A*, "Standard Test Method for Gross Calorific Value of Coal and Coke by the Isothermal Jacket Bomb Calorimeter". Restandardization requirements in Section 11 of both methods shall be followed. Precision requirements for repeatability shall be verified according to Section 16.1.1 of both methods at a minimum of once per week.

(e) The sulfur content of coal samples shall be determined according to procedures specified in ASTM D3177-89*, "Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke", or ASTM D4239-94*, "Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods". Precision requirements for repeatability shall be verified according to ASTM D3177-89*, Section 13, or ASTM D4239-94, Section 18*, at a minimum of one (1) time per week. The laboratory that performs the analysis shall participate in an interlaboratory audit program using coal samples supplied by the department.

(f) The department may approve minor modifications to the coal sampling and analysis procedures at a source upon demonstration by the source owner or operator that the minor modifications are necessary to meet the requirements of this section.

*These documents are incorporated by reference. Copies are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-7-2; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2075; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 38; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-7-3 Alternative coal sampling and analysis methods

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 3. (a) As an alternative to the coal sampling and analysis procedures in section 2 of this rule, a source owner or operator may use manual or other non-ASTM automatic sampling and analysis procedures upon a demonstration as described in subsection (b), submitted to and approved by the department and U.S. EPA that the procedures provide sulfur dioxide emission estimates representative either of estimates based on coal sampling and analysis procedures specified in section 2 of this rule or of continuous emissions monitoring.

(b) For the demonstration described in this section, a source owner or operator may submit documentation of procedures and results of a stopped-belt bias test or other comparisons between a sampling system meeting the requirements of section 2 of this rule and those methods and procedures proposed by the source owner or operator. A stopped-belt bias test and a sampling system meeting the requirements of section 2 of this rule shall be considered reference method systems. A comparison shall utilize

a series of at least twenty-five (25) reference method system samples paired with nonreference method system samples and analyzed for the percent of sulfur content to determine the presence of significant systemic error. The detection of significant systemic error shall be based on the application of a statistical test (t-test) to determine if there is a difference between the reference and nonreference systems at the ninety-five percent (95%) confidence level, according to the following formula:

Where:	t	=	Calculated t value.
	d	=	Average difference between paired data.
	Sd	=	Standard deviation of the differences.
	N	=	Number of paired data sets.

The calculated t value is compared to the t value in the standard statistical t tables at the ninety-five percent (95%) probability and the appropriate degrees of freedom (n - 1). If the calculated t value is greater than or equal to the value of t in the t table, then the systems are not comparable. Certain coals with low variability may detect a small bias, which may be acceptable as decided on a case-by-case basis. This method tests for positive and negative bias. Provisions for testing only for a negative bias that would cause a source owner or operator to report less than actual values may be acceptable if supported by statistical tests. Upon request, the department shall provide written guidance to a source owner or operator as to the procedures to be followed in conducting this comparison.

(c) The demonstration described in this section shall be repeated upon any significant change to the coal sampling procedures or upon notification by the department that a new demonstration is necessary. If the department has reason to doubt that the alternative sampling and analysis procedures are comparable to methods and procedures provided in section 2 of this rule, based on:

(1) inspections;
(2) monitoring;
(3) quality assurance data; or
(4) other information;

the department may notify the owner or operator that the demonstration shall be repeated. Written notification by the department of the request shall be made to the source owner or operator allowing at least sixty (60) days to schedule the demonstration. *(Air Pollution Control Division; 326 IAC 3-7-3; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2077; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*

326 IAC 3-7-4 Fuel oil sampling; analysis methods

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11
Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 4. (a) The source owner or operator shall perform sampling and analysis of the sulfur content of fuel oil in accordance with the following ASTM procedures:

(1) Collection of fuel oil samples shall be conducted according to either of the following:
  (A) ASTM D4057-88*, "Standard Practice for Manual Sampling of Petroleum and Petroleum Products".
  (B) ASTM D4177-82*, "Standard Method for Automatic Sampling of Petroleum and Petroleum Products".
(2) Determination of sulfur content shall be conducted according to any of the following:
  (A) ASTM D129-95*, "Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)".
  (B) ASTM D1266-91*, "Standard Test Method for Sulfur in Petroleum Products (Lamp Method)".
  (C) ASTM D1552-95*, "Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)".
  (D) ASTM D2622-94*, "Standard Test Method for Sulfur in Petroleum Products (X-Ray Spectrographic Method)".
(3) Determination of heat content shall be conducted according to ASTM D240-92*, "Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter".

(b) A source owner or operator may, with the prior written approval of the department and U.S. EPA, modify the procedures specified in subsection (a), use alternate equivalent procedures, or rely upon equivalent sampling and analysis procedures performed by the vendor prior to delivery of the fuel oil to the owner or operator.

*These documents are incorporated by reference. Copies are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 3-7-4; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2077; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28*

IR 40; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)

326 IAC 3-7-5 Record keeping requirements; standard operating procedures

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-14-4-3; IC 13-15; IC 13-17

Sec. 5. (a) Owners or operators of sources with total coal-fired capacity greater than or equal to one hundred (100) million British thermal units per hour actual heat input shall develop a standard operating procedure (SOP) to be followed for:

(1) sampling;

(2) handling;

(3) analysis;

(4) quality control;

(5) quality assurance; and

(6) data reporting of the information collected under sections 2 through 4 of this rule.

In addition, any revision to the SOP shall be maintained by the source and made available upon request by the department.

(b) Owner or operators of emissions units using CEMS for compliance that do not use coal sampling and analysis as a backup when the CEMS is not in use do not need to have a SOP.

(c) The owner or operator of a source or emissions unit subject to this rule shall maintain records sufficient to verify compliance with the procedures specified in sections 2 through 4 of this rule. Records shall be:

(1) maintained for a period of five (5) years; and

(2) made available upon request by the department.

The department may at any time perform a systems audit to determine compliance with the requirements in sections 2 through 4 of this rule. Audit procedures shall be submitted to the owner or operator of a fuel sampling and analysis system subject to audit prior to conducting the audit. *(Air Pollution Control Division; 326 IAC 3-7-5; filed Jan 30, 1998, 4:00 p.m.: 21 IR 2078; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; filed Aug 11, 2011, 1:54 p.m.: 20110907-IR-326050330FRA)*