

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION II – PERMITS AND FEES**

**RULE 245
CONTINUOUS SOURCE EMISSION MONITORING**

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MARICOPA COUNTY
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RULE 245
CONTINUOUS SOURCE EMISSION MONITORING

SECTION 100 – GENERAL

- 101 **PURPOSE:** To set forth continuous source emission monitoring requirements for fossil fuel-fired generators, nitric acid plants, sulfuric acid plants and fluid bed catalytic cracking units.
- 102 **APPLICABILITY:** This rule applies to:
- 102.1 Fossil fuel-fired steam generators, as specified in Section 302.1 of this rule, which shall be monitored for opacity emissions, nitrogen oxides emissions, sulfur dioxide emissions and oxygen or carbon dioxide.
 - 102.2 Nitric acid plants, as specified in Section 302.2 of this rule, which shall be monitored for nitrogen oxides emissions.
 - 102.3 Sulfuric acid plants, as specified in Section 302.3 of this rule, which shall be monitored for sulfur dioxide emissions.
 - 102.4 Fluid bed catalytic cracking unit catalyst regenerators, as specified in Section 302.4 of this rule, which shall be monitored for sulfur dioxide emissions.

SECTION 200 – DEFINITIONS: For the purpose of this rule, the following definitions shall apply:

- 201 **CAPACITY FACTOR:** The ratio of the average load on a machine or equipment for the period of time considered to the capacity rating of the machine or equipment.
- 202 **CONTINUOUS MONITORING SYSTEM:** The total equipment required under Section 302 of this rule to sample and analyze emissions or process parameters and to provide a permanent data record.
- 203 **EMISSION STANDARD:** A regulation (or portion thereof) setting forth an allowable rate of emission, level of opacity, or prescribing equipment or fuel specifications that result in control of air pollution emissions.
- 204 **FOSSIL FUEL-FIRED STEAM GENERATOR:** A furnace or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.
- 205 **NITRIC ACID PLANT:** Any source producing nitric acid 30 to 70 percent in strength by either the pressure or atmospheric pressure process.
- 206 **SULFURIC ACID PLANT:** Any source producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge. This does not include

sources where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

SECTION 300 – STANDARDS

301 EQUIPMENT INSTALLATION AND PERFORMANCE TESTS: Every owner or operator of an emission source in a category described in Section 102 of this rule shall:

301.1 Install, calibrate, operate, and maintain all monitoring equipment necessary for continuously monitoring the pollutants specified in this rule, and

301.2 Complete the installation and performance tests of such equipment and begin monitoring and recording within 18 months of plant approval.

302 MINIMUM MONITORING REQUIREMENTS:

302.1 Fossil Fuel-Fired Steam Generators: Each fossil fuel-fired steam generator, except as provided in Sections 302.1a and 302.1b of this rule, with an annual average capacity factor greater than 30 percent as reported to the Federal Power Commission for calendar year 1974, or as otherwise demonstrated to the Control Officer by the owner or operator, shall conform with the following monitoring requirements when such source is subject to an emission standard of an applicable plan for the pollutant in question.

- a. A continuous emission monitoring system for the measurement of opacity which meets the performance specifications of Section 303.1 of this rule shall be installed, calibrated, maintained, and operated in accordance with the procedures of this rule by the owner or operator of any such steam generator of greater than 250 million BTU per hour heat input except where:
 - (1) Gaseous fuel is the only fuel burned, or
 - (2) Oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with the applicable particulate matter and opacity regulations without utilization of particulate matter collection equipment, and where the source has never been found through any administrative or judicial proceedings to be in violation of any visible emission standard of the applicable plan.
- b. A continuous emission monitoring system for the measurements of sulfur dioxide which meets the performance specifications of Section 303.3 of this rule, shall be installed, calibrated, using sulfur dioxide calibration gas mixtures, gas cells or other gas mixtures approved by the Control Officer, maintained, and operated on fossil fuel-fired steam generators of greater than 250 million BTU per hour heat input which has installed sulfur dioxide pollutant control equipment.
- c. A continuous emission monitoring system for the measurement of nitrogen oxides which meets the performance specification of Section 303.2 of this rule shall be installed, calibrated, using nitric oxide calibration gas mixtures, gas cells or other gas mixtures approved by the Control Officer, maintained, and operated on fossil fuel-fired steam generators of greater than 1000 million BTU per hour heat input when such source is located in an air quality control region where the Control Officer has specifically determined that a control strategy for nitrogen dioxide is

necessary to attain the national standards, unless the source owner or operator demonstrates during source compliance tests as required by the Control Officer that such a source emits nitrogen oxides at levels 30 percent or more below the emission standard within the applicable plan.

- d. A continuous emission monitoring system for the measurement of the percent oxygen or carbon dioxide which meets the performance specifications of Sections 303.4 and 303.5 of this rule shall be installed, calibrated, operated, and maintained on fossil fuel-fired steam generators where measurements of oxygen or carbon dioxide in the flue gas are required to convert either sulfur dioxide or nitrogen oxides continuous emission monitoring data, or both, to units of the emission standard within the applicable plan.

302.2 Nitric Acid Plants: Each nitric acid plant of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid, located in an air quality control region where the Control Officer has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the national standard, shall install, calibrate, maintain, and operate a continuous emission monitoring system for the measurement of nitrogen oxides which meets the performance specifications of Section 303.2 of this rule for each nitric acid producing source within such plant.

302.3 Sulfuric Acid Plants: Each sulfuric acid plant of greater than 300 tons per day production capacity, the production being expressed as 100 percent acid, shall install, calibrate, maintain and operate a continuous emission monitoring system for the measurement of sulfur dioxide which meets the performance specifications of Section 303.3 of this rule for each sulfuric acid producing source within such plant.

302.4 Fluid Bed Catalytic Cracking Unit Catalyst Regenerators at Petroleum Refineries: Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain, and operate a continuous emission monitoring system for the measurement of opacity which meets the performance specifications of Section 303.1 of this rule.

303 MINIMUM SPECIFICATIONS FOR MONITORING EQUIPMENT: Owners or operators of monitoring equipment installed to comply with this rule shall demonstrate compliance with the performance specifications set forth in Appendix B of Part 60, Chapter 1, Title 40, CFR as amended, incorporated herein by reference. However, where reference is made to the Administrator in Appendix B of 40 CFR 60, the Control Officer may allow the use of either the state approved reference method or the federally approved reference method as published in 40 CFR 60. The performance specifications to be used with each type of monitoring system are listed below.

- 303.1** Continuous emission monitoring systems for measuring opacity shall comply with performance specification 1.
- 303.2** Continuous emission monitoring systems for measuring nitrogen oxides shall comply with performance specification 2.
- 303.3** Continuous emission monitoring systems for measuring sulfur dioxide shall comply with performance specification 2.

- 303.4 Continuous emission monitoring systems for measuring oxygen shall comply with performance specification 3.
- 303.5 Continuous emission monitoring systems for measuring carbon dioxide shall comply with performance specification 3.

304 MINIMUM DATA REQUIREMENTS:

- 304.1 The owners or operators of sources required to install continuous emission monitoring systems shall submit to the Control Officer a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known. The averaging period used for data reporting shall correspond to the averaging period specified in the emission standard for the pollutant source category in question. The required report shall include, as a minimum, the data stipulated in this rule.
- 304.2 For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of all six-minute opacity averages greater than any applicable standards in these rules for each hour of operation of the source. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four equally spaced, instantaneous opacity measurements per minute. Any time periods exempted shall be deleted before determining any averages in excess of opacity standards.
- 304.3 For gaseous measurements the summary shall consist of emission averages in the units of the applicable standard for each averaging period during which the applicable standard was exceeded.
- 304.4 The date and time identifying each period during which the continuous emission monitoring system was inoperative, except for zero and span checks and the nature of system repair or adjustment shall be reported. The Control Officer may require proof of continuous emission monitoring system performance whenever system repairs or adjustments have been made.
- 304.5 When no excess emissions have occurred and the continuous emission monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.
- 304.6 Owners or operators of affected sources shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous emission monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries.

305 MONITORING EQUIPMENT OPERATING REQUIREMENTS: The owner, lessee, or operator shall provide, install, calibrate, maintain and operate air contaminant monitoring devices as are reasonable and required pursuant to these Regulations to determine compliance in a manner acceptable to the Control Officer.

306 EXEMPTIONS: The provisions of this rule shall not apply to any source which is:

- 306.1 Subject to a New Source Performance Standard promulgated in 40 CFR part 60;

- 306.2 Not subject to an applicable emission standard of the approved State Implementation Plan; or
- 306.3 Scheduled for retirement within five years after inclusions of monitoring requirements for the source in these Regulations, provided that adequate evidence and guarantees are provided that clearly show that the source will cease operations prior to such date.
- 306.4 A temporary exemption from the monitoring and reporting requirements of this rule may be provided during any period of monitoring system malfunction, provided that the source owner or operator shows to the satisfaction of the Control Officer that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

307 SPECIAL CONSIDERATION: The Control Officer may approve, on a case-by-case basis, alternative monitoring requirements different from the provisions of Sections 301 through 305 of this rule if the installation of a continuous emission monitoring system cannot be implemented by a source due to physical plant limitations or extreme economic reasons. Alternative monitoring procedures shall be specified by the Control Officer on a case-by-case basis and shall include as a minimum annual manual stack tests for the pollutants identified for each type of source in this rule. Examples of such special cases include, but are not limited to, the following:

- 307.1 Alternative monitoring requirements may be prescribed when installation of a continuous emission monitoring system or monitoring device specified by this rule would not provide accurate determinations of emissions (e.g. condensed, uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous emission monitoring systems).
- 307.2 Alternative monitoring requirements may be prescribed when the affected source is infrequently operated (e.g. some affected sources may operate less than one month per year).

SECTION 500 – MONITORING AND RECORDS

- 501 **DATA REDUCTION:** Owners or operators of affected sources shall use the procedures described in Appendix A for converting monitoring data to units of the standard where necessary.
- 502 **MONITORING DATA REQUIRED:** Monitoring information shall be provided in writing to the Control Officer as directed.
- 503 **MONITORING EQUIPMENT INSPECTIONS:** Air pollutant monitoring devices shall be available for inspection by the Control Officer during all reasonable times (ARS §49-487).
- 504 **TRANSMISSOMETER RESULTS:** The results of continuous transmissometer monitoring which indicate opacity was not in excess of the standard at the time of an alleged violation from visual observations are probative but not conclusive evidence of the actual opacity of an emission. The owner or operator of a source shall meet the burden of providing proof that the transmissometer used meets performance specification 1 in the Arizona Testing Manual for Air Pollutant Emissions, and that the instrument has been properly maintained and calibrated, and the resulting data have not been tampered with in any way.