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MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS

REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 311
PARTICULATE MATTER FROM PROCESS INDUSTRIES

SECTION 100 - GENERAL

101 PURPOSE: To limit the discharge of particulate matter into the atmosphere by establishing emission rates based on process weight.

102 APPLICABILITY: This rule shall apply to any affected operation which is not subject to Rules 313, 316, 317, 319, 322, and 323 which regulate particulate matter from specific sources. All sources regulated by this rule shall also comply with Rule 310.

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

201 AFFECTED OPERATION - An operation that emits particulate matter into the ambient air as a result of processing materials.

202 APPROVED EMISSION CONTROL SYSTEM - A system for reducing particulate matter emissions, consisting of collection and/or control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.

203 PARTICULATE MATTER - Any material, except uncombined water, which has a nominal aerodynamic diameter smaller than 100 microns (micrometers), and which exists in a finely divided form as a liquid or solid at actual conditions.

204 PARTICULATE MATTER EMISSIONS - Any and all finely divided solid or liquid materials other than uncombined water, emitted to the ambient air as measured by applicable state and federal test methods.

205 PROCESS WEIGHT - The total weight of all materials introduced into an operation, excluding liquids and gases used solely as fuels, air which is not consumed as a reactant, and combustion air.

206 PROCESS WEIGHT RATE - A rate established as follows:

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206.1 For continuous or long-run steady-state operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

206.2 For cyclical or batch operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period.

207 UNCOMBINED WATER - Condensed water containing no more than analytical trace amounts of other chemical elements or compounds.

SECTION 300 - STANDARDS

301 LIMITATIONS - PROCESS INDUSTRIES: No person shall discharge or cause or allow the discharge of particulate matter emissions into the ambient air from any affected operation in excess of the allowable hourly emission rate determined by the following equations:

301.1 Process Weight Rates Less Than or Equal to 60,000 Pounds Per Hour: Determination of the allowable hourly emission rates (E) for process weight rates up to 60,000 lbs/hr shall be accomplished by use of the equation:

$E = 3.59\ P^{0.62}$ (P = less than or equal to 30 tons/hr)

where:

E = Emissions in pounds per hour, and

P = Process weight rate in tons per hour.

301.2 Process Weight Rates Greater Than 60,000 Pounds Per Hour: Determination of the allowable hourly emission rates (E) for process weight rates in excess of 60,000 lbs/hr shall be accomplished by the use of the equation:

$E = 17.31\ P^{0.16}$ (P = greater than 30 tons/hr)

where "E" and "P" have the same meanings as in Section 301.1 of this rule.

302 APPLICABILITY OF EMISSION LIMITS FOR COMBINED EMISSIONS FROM SIMILAR OPERATIONS: The total process weight from all similar operations at a facility, plant or premises shall be used for determining the maximum allowable emissions of particulate matter.

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303 LIMITATIONS - PORTLAND CEMENT PLANTS: Portland cement plants shall be subject to the New Source Performance Standards (NSPS), 40 CFR 60, Subpart F, referenced in Rule 360 of these Rules and Regulations.

304 APPROVED EMISSION CONTROL SYSTEM REQUIRED: For affected operations which may exceed the applicable standards set forth in Sections 301 through 302 of this rule, an owner or operator may comply by installing and operating an approved emission control system.

305 OPERATION AND MAINTENANCE (O&M) PLAN REQUIRED: No person required to use an approved emission control system to reduce emissions as specified in the conditions of a valid permit in accordance with this rule shall do so without complying with an operation and maintenance plan that has been approved by the Control Officer. This plan shall specify key system operating parameters such as temperatures, transfer rates, pressures and/or flow rates necessary to determine compliance with this rule and describe in detail procedures to maintain the approved emission control system. The Control Officer's written approval of this plan shall be required for compliance with this rule to be achieved.

306 EXEMPTIONS: The provisions of Section 301 of this rule shall not apply to incinerators or fuel burning facilities.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE - OPERATION AND MAINTENANCE (O&M) PLAN: Any person employing an approved emission control system on the effective date of this rule shall by December 1, 1993, file an O&M Plan with the Control Officer in accordance with Section 501 of this rule.

SECTION 500 - MONITORING AND RECORDS

501 PROVIDING AND MAINTAINING MONITORING DEVICES: No person required to use an approved emission control system to control particulate emissions pursuant to this rule shall do so without first providing, properly installing, operating and maintaining in calibration and in good working order devices for indicating temperatures, pressures, transfer rates, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained as described in an approved O&M Plan.

502 RECORDKEEPING AND REPORTING: Any person subject to this rule shall comply with the following requirements. Any records and data required by this section shall be kept on site at all times in a consistent and complete manner and be made available without delay to the Control Officer or his designee upon request.

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502.1 De Minimis Limitation for Affected Operations Requiring Records: No person responsible for the operation of any particulate-emitting affected operation which processes more than 50 pounds of material daily shall conduct such operations unless detailed daily records are maintained.

502.2 Minimum Recordkeeping Required: These records shall be updated each day of operation and include at a minimum the following information: a record of the total weight of all process materials including raw materials, additives, fuels, etc., which are put into a process flow at the beginning of each batch process shall be kept on site. This shall include all materials which participate in the process and are changed in mass, form, state or in other characteristics by means of their interaction in the given process. The duration of each separate batch process shall also be recorded.

a. **Batch process records:** Maintain a record of the total weight of all process materials including raw materials, additives, and fuels which are put into a process flow at the beginning of each batch process shall be kept. This shall include all materials which participate in the process and are changed in mass, form, state or in other characteristics by means of their interaction in the given process. The duration of each separate batch process shall also be recorded.

b. **Continuous or semi-continuous process records:** Maintain a daily record of the weight of all process material entering into each process including raw materials, additives, fuels, the start time and the duration of each process run. In addition to the foregoing, records shall be kept for processes which run continuously for more than 24 hours. Such records shall include the total weight of any material entering into the process over the entire duration of the process run from start up to shut down and the total elapsed time of operation.

502.3 Operation and Maintenance: Maintain a continuous record of the periods of time an approved emission control system is used to comply with this rule and maintain daily records of the Operation and Maintenance Plan's key system operating parameters. The records shall account for any periods of production when the control system was not operating and maintain records of all maintenance performed according to the O&M Plan.

503 RECORD RETENTION: Copies of reports, logs and supporting documentation required by the Control Officer shall be retained at least five years. Records and information required by this rule shall also be retained for at least five years.

504 TEST METHODS ADOPTED BY REFERENCE: The EPA test methods as they exist in the Code of Federal Regulations (CFR) (July 1, 2001) as listed below, are

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adopted by reference. These adoptions by reference include no further editions or amendments. Copies of test methods referenced in this Section are available at the Maricopa County Environmental Services Department, 1001 N. Central Avenue, Phoenix, AZ. 85004-1942. When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

504.1 EPA Reference Method 1 (" Sample and Velocity Traverse for Stationary Sources"), 1A (" Sample and Velocity Traverses for Stationary Sources with Small Stacks and Ducts") (40 CFR 60, Appendix A).

504.2 EPA Reference Method 2 (" Determination of Stack Gas Velocity and Volumetric Flow Rate "), 2A (" Direct Measurement of Gas Volume Through Pipes and Small Ducts), 2C (" Determination of Stack Gas Velocity and Volumetric Flow Rate in Small Stacks or Ducts"), and 2D (" Measurement of Gas Volumetric Flow Rates in Small Pipes and Ducts") (40 CFR 60, Appendix A).

504.3 EPA Reference Method 3 (" Gas Analysis for the Determination of Dry Molecular Weight"), 3A (" Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure), 3B (" Gas Analysis for the Determination of Emission Rate Correction Factor of Excess Air"), 3C (" Determination of Carbon Dioxide, Methane, Nitrogen and Oxygen from Stationary Sources") (40 CFR 60, Appendix A).

504.4 EPA Reference Method 4 ("Determination of Moisture Content in Stack Gases") (40 CFR 60, Appendix A).

504.5 EPA Reference Method 5 (" Determination of Particulate Emissions from Stationary Sources") (40 CFR 60, Appendix A) and possibly, if requested by the Control Officer, EPA Reference Method 202 (" Determination of Condensable Particulate Emissions from Stationary Sources") (40 CFR 51, Appendix M).

504.6 EPA Reference Method 9 (" Visual Determination of the Opacity Emissions from Stationary Sources") (40 CFR 60, Appendix A).

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