

## COUNTY NOTICES PURSUANT TO A.R.S. § 49-112

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### NOTICE OF FINAL RULEMAKING

#### MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS

#### RULE 300 – VISIBLE EMISSIONS

[M08-194]

#### PREAMBLE

**1. Sections affected**

Rule 300

**Rulemaking action**

Amend

**2. Statutory authority for the rulemaking:**

Authorizing statutes: A.R.S. §§ 49-474, 49-479, and 49-480  
Implementing statute: A.R.S. § 49-112

**3. The effective date of the rule:**

Date of Adoption: March 12, 2008

**4. List of all previous notices appearing in the Register addressing the rulemaking:**

Notice of Rulemaking Docket Opening: 13 A.A.R. 3373, October 5, 2007

Notice of Proposed Rulemaking: 13 A.A.R. 3864, November 9, 2007

**5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

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**6. An explanation of the rule, including the agency's reasons for initiating the rulemaking:**

The Maricopa County Air Quality Department (MCAQD) revised Rule 300 to implement a control measure and increase compliance with existing rules for the Five Percent Plan for PM<sub>10</sub>. On June 6, 2007, the U.S. Environmental Protection Agency (EPA) finalized its finding that the Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline mandated in the Clean Air Act (CAA), December 31, 2006. (72 FR 31183, June 6, 2007). Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas that fail to attain are required to submit within 12 months of the applicable attainment date, "plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of the amount of such emissions as reported in the most recent inventory prepared for such area." In accordance with the CAA section 179(d)(3), the attainment deadline applicable to an area that misses the serious area attainment date is as soon as practicable. The region submitted a Five Percent Plan for PM<sub>10</sub> by December 31, 2007.

**PM<sub>10</sub> Nonattainment Status History:**

The 1990 Clean Air Act Amendments initially classified Maricopa County as a "moderate" nonattainment area for PM<sub>10</sub> pollution. This classification required the Phoenix nonattainment area to show attainment of the PM<sub>10</sub> national ambient air quality standards (NAAQS) by December 31, 1994. The Maricopa County moderate PM<sub>10</sub> nonattainment area failed to attain the NAAQS by this deadline. Consequently, on May 10, 1996, the EPA reclassified Maricopa County as a serious PM<sub>10</sub> nonattainment area. The EPA partially disapproved the PM<sub>10</sub> SIP revision triggering a federal implementation plan (FIP) obligation. The EPA disapproved those sections of the SIP addressing unpaved roads, unpaved

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shoulders, unpaved parking lots, vacant lots, and agriculture. Under the court ordered consent decree, the EPA finalized a FIP in July 1998 for the Maricopa County PM<sub>10</sub> nonattainment area that addressed four of those categories. In response to the EPA's disapproval, a SIP was prepared by the Arizona Department of Environmental Quality (ADEQ) to include implementation of Best Available Control Measures (BACM) demonstrating attainment of the PM<sub>10</sub> NAAQS by December 21, 2001.

Emission inventories and air quality modeling analysis of these control measures found a 16.4% PM<sub>10</sub> reductions shortfall, so attainment was not achieved by the December 2001 target date. A Serious Area Plan for PM<sub>10</sub> was submitted to EPA on July 9, 1999 containing 77 additional control measures. This revised serious area plan was approved by the EPA in April 2002 contingent on the completion of three commitments by Maricopa County. Revisions to Rule 310 adopted on April 7, 2004 addressed these commitments.

On July 2, 2002, the EPA found the SIP control inadequate to ensure the attainment of the PM<sub>10</sub> NAAQS at the Salt River air quality monitoring sites and three other microscale sites in the Maricopa County nonattainment area (Maryvale, Gilbert, and West Chandler). The EPA's Aerometric Information Retrieval System (AIRS) continued to show exceedances at the Maricopa County PM<sub>10</sub> nonattainment area Salt River site, recording exceedances in 1999, 2000, and through three quarters of 2001. Consequently, the EPA required Arizona to submit a SIP revision to identify and implement corrective PM<sub>10</sub> control provisions in the Salt River Study Area and for similar significant sources in the Maricopa County PM<sub>10</sub> nonattainment area.

Arizona's Salt River SIP revision provided attainment by December 31, 2006, in accordance with CAA § 189(b)(1)(A) and 188(e), and was required to include control strategies that meet the Best Available Control Measures (BACM) test and the Most Stringent Measures (MSM) test for significant sources and source categories.

The Final Salt River PM<sub>10</sub> State Implementation Plan dated August 2004 included the following requirements, as described by the EPA in its Federal Register notice of disapproval (67 FR 44369, July 2, 2002):

- A modeling demonstration showing that the level of emissions reductions from application of BACM-MSM for all significant sources of PM<sub>10</sub> will result in attainment of the 24-hour NAAQS by December 31, 2006, at the Salt River PM<sub>10</sub> monitoring site, in accordance with CAA §189(b)(1)(A) and §188(e).
- Commitments to implement BACM-MSM for sources significantly contributing to exceedances of the 24-hour PM<sub>10</sub> standard in the Salt River area as expeditiously as possible (CAA §189(b)(1)(B)) and a commitment that all BACM and MSM control measures adopted and applied to sources in the Salt River Study Area will be applied to all similar sources throughout the Maricopa County PM<sub>10</sub> serious nonattainment area.
- A demonstration that the plan constitutes Reasonable Further Progress (RFP) up to the attainment deadline (December 31, 2006).
- A demonstration that all the requirements of the federal Clean Air Act Amendments that pertain to serious PM<sub>10</sub> nonattainment areas are met, including CAA §110(l), §110(a)(2)(E)(i), and 40 CFR §51.280 and §51.111).

**Explanation for Current Rulemaking Proposals:**

The Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline of December 31, 2006 mandated in the Clean Air Act (CAA) (72 FR 31183, June 6, 2007). Now, the required 5% Plan for PM<sub>10</sub> must demonstrate 5% reductions per year in emissions from the date of submission to the EPA.

The MCAQD conducted an analysis to identify additional measures to reduce emissions and/or improve compliance with existing requirements. In this analysis, the MCAQD reviewed current rules to determine the Most Stringent Measures (MSM) application of the 20% visible emission standard. This review included rules from Clark County, Nevada; South Coast Air Quality Management District, California (SCAQMD); and San Joaquin Unified Air Pollution Control District, California (SJUAPCD) in an effort to identify the differences between Maricopa County rules and rules from areas that successfully met the December 31, 2006 attainment date. The MCAQD also reviewed the EPA's notice finalizing Method 203 (A), (B), and (C) (71 FR 55119, September 21, 2006). In the summary of that notice the EPA states: "The intended effect is to provide States with an expanded array of data reduction procedures for determining compliance with SIP opacity regulations." These areas that successfully met the December 31, 2006 attainment date administer rules that utilize a time-exception form of the standard expressed as "... shall not exceed 20% opacity for more than three minutes out of any 60-minute period." This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% visible emission standard and results in a more consistent compliance with the standard.

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**Section by Section Explanation of Changes:**

- Section 200: Added “See Rule 100 – General Provisions and Definitions of these rules for definitions of terms that are used but not specifically defined in this rule” and re-numbered definitions to be consistent with definition changes.
- Section 201: Deleted “Intermittent Source – A source which causes or discharges visible emissions for a duration of less than 6 consecutive minutes.” Re-numbered definitions to be consistent with definition changes.
- Section 301: Deleted from heading “Opacity/General”. Added “for a period aggregating more than three minutes in any 60-minute period” and added “of this rule” for reference purposes.
- Section 501: Deleted “except as provided in Section 502 of this rule” and added “as modified by EPA Reference Method 203B.”
- Section 502: Deleted “Compliance Determination – Opacity of Visible Emissions From Intermittent Sources: Opacity of visible emissions from intermittent sources shall be determined by observations of visible emissions conducted in accordance with EPA Reference Method 9, except that at least 12 rather than 24 consecutive readings shall be required at 15-second intervals for the averaging time.”

**7. Demonstration of compliance with A.R.S. §49-112:**

Under ARS §49-479(C), a county may not adopt a rule or ordinance that is more stringent than the rules adopted by the Director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the requirements of ARS §49-112, which in Section (A) states:

When authorized by law, a county may adopt a rule, ordinance, or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition;
2. There is credible evidence that the rule, ordinance or other regulation is either:
  - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
  - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the County rule, ordinance, or other regulation is equivalent to federal statutes or regulations.

The MCAQD revised Rule 300 in order to address a peculiar local condition: EPA’s finding that the Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the December 31, 2006 deadline mandated in the Clean Air Act (CAA; 72 FR 31183, June 6, 2007). The Phoenix nonattainment area is the only nonattainment area designated serious for PM<sub>10</sub> in Arizona. Consequently, stronger regulations must be adopted in this area to address a serious health threat. Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas that fail to attain are required to submit within 12 months of the applicable attainment date “plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of the amount of such emissions as reported in the most recent inventory prepared for such area.” In accordance with the CAA Section 179(d)(3), the attainment deadline applicable to an area that misses the serious area attainment date is as soon as practicable. The region submitted a Five Percent Plan for PM<sub>10</sub> by December 31, 2007. The Phoenix nonattainment area is one of three areas in the entire country for which the EPA has issued a finding that Section 189(d) has been triggered. Because of this, the revisions to Maricopa County Rule 300 comply with A.R.S. § 49-112 (A)(1) and A.R.S. § 49-112 (A)(2).

**8. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

Not applicable

**9. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision:**

Not applicable

**10. A preliminary summary of the economic, small business, and consumer impact:**

**Rule Identification:**

This rulemaking amends Rule 300 – Visible Emissions in the Maricopa County Air Pollution Control Regulations. The

revision changes the data reduction methodology for the existing 20% opacity limit and reads "... shall not exceed 20% opacity for more than three minutes out of any 60-minute period." This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% visible emission standard and results in a more consistent compliance with the standard.

**Entities Directly Impacted:**

Entities directly impacted by this rulemaking include certain permitted sources, pollution control vendors, contractors, consultants, lawyers, the County, private persons and consumers. The Maricopa County Air Quality Department (MCAQD) estimates that as few as 20 to 30 sources might be affected by this rulemaking. Although many industry categories, including woodworking operations, metallurgical operations, scrap metal operations, and cotton gins are potentially subject to Rule 300, most of these sources will be unaffected by this rule. Such sources either already comply with a form of data reduction for determining compliance with the standard, are already subject to the 20% opacity standard or lower opacity standards, or are regulated by New Source Performance Standards (NSPS) under Title 40, Part 60 of the Code of Federal Regulations.

**Probable Costs and Benefits:**

A. Costs to the state of Arizona:

If Arizona is unable to submit a plan that demonstrates a 5% per year reduction in PM<sub>10</sub> and is unable to demonstrate attainment at the monitors based on implemented control measures such as this rule, the EPA will be required to make a nondiscretionary finding that Arizona has failed to submit an approvable plan. If the County and Arizona fail to correct the identified deficiencies – described in the EPA’s nondiscretionary finding – within the timeframe specified in the EPA’s nondiscretionary finding, the sanctions under § 179 of the Clean Air Act (CAA) will be imposed. Sanctions include loss of highway funds and stricter emission offset requirements for major sources. In addition, under § 110(c) of the CAA, the EPA would then need to promulgate a Federal Implementation Plan (FIP) no later than 24 months after the date of publication of the notice of EPA’s nondiscretionary finding.

B. Potential Costs and Benefits to the Public:

The most obvious benefit arising from promulgation of this rule is reduction in the harmful effects of air pollution, most notably particulates. Air pollution harms lung function, damages lung tissue, and increases respiratory symptoms, such as coughing, shortness of breath, wheezing and asthma attacks, and can impair the body’s immune system response to inhaled particles. Results may include restricted activities, work time lost, revenues lost due to increased hospital admissions, illness, and death. PM associated health risks occur even more frequently in susceptible subpopulations, such as the elderly, children with asthma, and persons with cardiopulmonary disease, and may contribute to up to 65,000 excess deaths in the U.S. annually (STAPPA and ALAPCO, Controlling Particulate Matter Under the Clean Air Act: A Menu of Options, July 1996). Even very low concentrations of particulate matter may increase risk of early death, particularly in elderly populations with preexisting cardiopulmonary diseases (STAPPA and ALAPCO, *supra*). Chronic obstructive pulmonary disease (COPD), a major cause of morbidity and mortality in the U.S., cost the country more than 32 billion dollars in 2002, a figure which does not include costs attributable to asthma (American Lung Assoc., “Trends in Chronic Bronchitis and Emphysema: Morbidity and Mortality,” Epidemiology and Statistics Unit, Research and Scientific Affairs, March 2003). Notably, asthma death rates in Arizona equaled or exceeded U.S. rates from 1991–98. In addition, in 1998, an estimated 316,200 Arizonans suffered breathing discomfort and asthma related stress (Arizona Department of Health Services, “Asthma Control Program,” Office of Nutrition and Chronic Disease Prevention Services, October, 2002). Therefore, Maricopa County expects the change in data reduction methodology; i.e., utilizing a time-exception form of the standard expressed as "... shall not exceed 20% opacity for more than three minutes out of any 60-minute period", to translate into cost-saving benefits to the general public by reducing emissions-related adverse health effects and the concurrent lost revenue and health care costs. In addition to direct health-related effects, a statewide opacity limit of 20% will affect the general quality of life, particularly for those persons living near sources.

C. Potential Costs and Benefits to the Regulated Community:

The change in the data reduction methodology for the existing opacity standard in Rule 300 will require that owners/operators more closely monitor their activities, processes, and controls to ensure proper operation at all times. Areas that successfully met the December 31, 2006 PM<sub>10</sub> attainment date – including Clark County, Nevada; South Coast Air Quality Management District, California; San Joaquin Unified Air Pollution Control District, California; and six out of 14 western states that are members of the Western Regional Air Partnership (WRAP) – all administer rules that include the data reduction methodology adopted in Rule 300. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the adopted standard.

Although each regulated facility is unique, the costs of compliance associated with the revision to Rule 300 are similar and may include: new capital equipment or modification of existing equipment, adjusting or enhancing operations and maintenance; replacing or modifying processes and designs; and indirect and administrative costs. Compliance might

also result, however, in a variety of offsetting financial benefits for the source. Such benefits range from lower operation and maintenance costs, as a result of updated and more efficient equipment, to fewer man-hours lost and lower health care costs due to a decrease in pollution-exacerbated illnesses. During the informal workshop process for this rulemaking, the Maricopa County Air Quality Department (MCAQD) requested, from sources participating in the rulemaking process, information on source-specific costs to achieve compliance with these standards. The MCAQD did not receive any information.

**Small Business Analysis:**

The MCAQD has not identified all small businesses that could be affected by this rulemaking; however, several small business categories were represented during the rulemaking process for Rule 300 and such businesses did not express any reservations about compliance. The MCAQD has considered a variety of methods to reduce the impact of this rule on small businesses, including five methods prescribed by A.R.S. § 41-1035: (1) establish less stringent compliance or reporting requirements; (2) establish less stringent schedules or deadlines for compliance or reporting requirements; (3) consolidate or simplify the rulemaking's reporting requirements; (4) establish performance requirements to replace design or operational standards; or (5) exempt them from some or all of the rule requirements. For the reasons stated in Item #6 of this Notice of Final Rulemaking and due to the inherent difficulty in identifying all sources which are small businesses, including the possibility that such status may change from year to year, the MCAQD has determined that it is not feasible to apply a separate opacity standard to small businesses. The MCAQD does employ an ombudsman in the Business Resource Division, to whom small businesses may address their issues regarding compliance with the rule.

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Although each regulated facility is unique, the costs of compliance associated with the revision to Rule 300 are similar and may include: new capital equipment or modification of existing equipment, adjusting or enhancing operations and maintenance; replacing or modifying processes and designs; and indirect and administrative costs. Compliance might also result, however, in a variety of offsetting financial benefits for the source. Such benefits range from lower operation and maintenance costs, as a result of updated and more efficient equipment, to fewer man-hours lost and lower health care costs due to a decrease in pollution-exacerbated illnesses. During the informal workshop process for this rulemaking, the Maricopa County Air Quality Department (MCAQD) requested, from sources participating in the rulemaking process, information on source-specific costs to achieve compliance with these standards. The MCAQD did not receive any information.

**11. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:                     Johanna M. Kuspert or Jo Crumbaker  
                                  Maricopa County Air Quality Department

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**12. Description of the changes between the proposed rule, including supplemental notices and final rule:**

Since the final draft of Rule 300 was published in the Notice of Proposed Rulemaking on November 9, 2007 and in response to formal comments received during the formal comment period (November–December 2007), the following changes to Rule 300 were made. These changes appear in the text of the final rule published in this Notice of Final Rulemaking:

Rule 300, Section 301.1: Moved new Section 301.1 to existing Section 301. In Section 301, deleted from heading “Opacity/General” and added “for a period aggregating more than three minutes in any 60-minute period.” Section 301 reads: “Limitations: No person shall discharge into the ambient air from any single source of emissions any air

contaminant, other than uncombined water, in excess of 20% opacity for a period aggregating more than three minutes in any 60-minute period.”

Rule 300, Section 301.2: Deleted new Section 301.2: “No person shall cause, suffer, or allow visible emissions of particulate matter, including fugitive dust, beyond the property line within which the emissions are generated.”

**13. A summary of the comments made regarding the rule and the department response to them:**

The Maricopa County Air Quality Department (MCAQD) conducted two Public Workshops throughout the rulemaking process for Rule 300 (in April and August 2007), and received formal comments during the formal comment period (November–December 2007) from Arizona Public Service (APS) and Salt River Project (SRP), Arizona Associated General Contractors, Arizona Department of Agriculture, and Joint Environmental Task Force. The formal comments and the MCAQD’s responses to such formal comments are summarized below:

**Comment #1:** APS and SRP are concerned with the proposed changes to this section as it relates to stack emissions. Based on information provided in the 2005 Maricopa County Emissions Inventory, modeling analyses performed by the Maricopa Association of Governments (MAG) and the Arizona Department of Environmental Quality (ADEQ), recommended Control Measures identified by the Air Quality Technical Advisory Committee of the MAG, and conditions set forth in Senate Bill 1552, it appears the intent of the five percent plan is to reduce particulate matter emissions from fugitive dust sources. However, the requirements set forth in this rule apply to emissions that have no applicable source-specific opacity requirement. It is clear that fugitive dust sources have a source specific opacity requirement under Rule 310 and 310.01; therefore, the changes in this rule do not address fugitive dust sources, but would instead impact point sources. As such, the changes set forth in this rule are beyond the scope of the five percent plan and do not reduce fugitive dust emissions.

**Response #1:** The technical analysis associated with the Salt River Area PM<sub>10</sub> SIP revision submitted in 2005 determined that stationary sources contribute significantly to exceedances of the 24-hour PM<sub>10</sub> standard that occur under stagnant conditions. That analysis characterized the specific types, number, and size of sources present in the modeling domain; land use; the topography of the area; and the design day specific meteorological conditions present at the monitor recording the exceedance. Attainment demonstrations for nonattainment areas required under the Clean Air Act must to the greatest extent practical depict the actual conditions present that cause exceedances in the nonattainment area. Therefore, the nonattainment area plans for the Phoenix nonattainment area for PM<sub>10</sub> are required under the Clean Air Act, in effect, to address actual local conditions that are unique to a geographical area. Further, the EPA’s latest particulate matter implementation rule, Clean Air Fine Particle Implementation Rule (72 FR 20586, April 25, 2007), identifies “revised opacity standard” in a list of possible stationary source measures. The rule also lists improved monitoring as a control measure. The EPA notes that improved monitoring control measures would require facilities to pay more attention to the operations of add-on air pollution control devices, work practices, and other control measure activities. The additional attention will reduce periods during which control devices and other control measures do not operate as intended or required. The result would be increased emissions reductions from implementing existing and new rules.

**Comment #2:** The language "no person shall discharge" should be replaced with the phrase "an owner/operator shall take reasonable measures to prevent discharge into ambient air" in Section 301.1 and Section 301.2. There should be consistency when the phrase "reasonable measure" substitutes "no person shall discharge" in Rules 300, 310, and 310.01.

**Response #2:** Using the term “reasonable” represents a relaxation of the State Implementation Plan (SIP). The term "reasonable" would not add to or clarify the meaning. Since "reasonable" is a qualitative term, it would simply lead to more ambiguity.

**Comment #3:** With respect to Section 301.1, APS and SRP agree with the concerns regarding the legality of this change to the existing rule as stated in a letter from Mr. Roger Ferland, on behalf of the Business Coalition, to Mr. Robert Kard dated August 10, 2007:

“Under Method 9, the opacity is determined as the average of 24 consecutive observations recorded at 15-second intervals. As such, the opacity determination is based on a six-minute average of 24 observations. In Method 203B, the number of observations above the applicable standard are counted and multiplied by 0.25 to determine the number of minutes a source is above the opacity standard. In essence, the Method 203B calculation methodology eliminates the averaging effect of readings below the standard...Obviously a data reduction method that results in noncompliance is more stringent than one that does not. This increased stringency of the opacity limit rule is multiplied by the fact that your department has proposed to expand the applicability of Appendix C to include determining compliance with opacity limits applicable to point source emissions...”

“Under the provisions of A.R.S. §49-112(A), the County may only adopt rules that are more stringent than those adopted by the Arizona Department of Environmental Quality (ADEQ) if all conditions of [A.R.S. §49-112(A)] are met...The ADEQ regulations pertaining to the measurement of visible emissions from nonpoint sources (A.A.C. R18-2-614) and point sources (A.A.C. R18-2-702(B)) rely solely upon EPA Test Method 9 and not Method 203B to determine compliance with opacity limits. Thus, the MCAQD’s proposal to substitute Method 203B for Method 9 is subject to the requirements of A.R.S. §49-112(A)...”.

“To date we have seen nothing to suggest the MCAQD intends to provide the evidence or can provide the evidence necessary to meet the statutory requirements.”

It has been suggested that since the change in opacity test methods was bundled with a proposal for more stringent PM<sub>10</sub> regulations that the “peculiar local condition” referred to in the statute was somehow connected to PM<sub>10</sub>. However, this cannot be the case. Visible emissions limits are intended to indicate the proper operation of particulate control technologies such as baghouses or dust suppression technologies. They are not intended to measure and cannot measure PM<sub>10</sub> emissions or the emissions of any other pollutant. For this reason, source category specific rules typically specify both an opacity limit and an emission limit...”

“Since there is no coincidence between PM<sub>10</sub> emissions and opacity, there is no reason to believe that a more stringent opacity limit, particularly one of the kind at issue here, would result in lower PM<sub>10</sub> (or any other) emissions...”

“Either the MCAQD must make the showings and provide the evidence required by statute (which we judge to be unlikely) or the proposal should be immediately withdrawn...”

**Response #3:** The revision to the data reduction methodology to EPA Method 203B, which is associated with Maricopa County's 20% opacity standard, is intended to further efforts to increase compliance. This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% opacity standard, which results in more consistent compliance with the existing standard. A rule effectiveness study conducted 2006 through 2007 by the MCAQD found that compliance with the existing rules is lower than anticipated.

The commenter also states that the proposed revisions to the data reduction methodology make the 20% opacity standard substantially more stringent than the current rule. The MCAQD disagrees and believes that the comment overstates the stringency of EPA Method 203B. Throughout the informal and formal rulemaking process, the MCAQD has repeatedly asked for examples of changes or modifications that would be necessary to comply with the proposed revision to Rule 300, using EPA Method 203B data reduction methodology. The MCAQD did not receive any additional information. Further, areas that successfully met the December 31, 2006 PM<sub>10</sub> attainment date – including Clark County, Nevada; South Coast Air Quality Management District, California; San Joaquin Unified Air Pollution Control District, California; and six out of 14 western states that are members of the Western Regional Air Partnership (WRAP) – all administer rules that include the data reduction methodology proposed in Rule 300. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the adopted standard.

In addition, if EPA Method 203B were substantially more stringent than EPA Method 9, then the MCAQD would have been required to include the measure in the most stringent measure demonstration contained in the MAG Serious Area PM<sub>10</sub> Nonattainment Area Plan and Attainment Date Extension Request.

The technical analysis associated with the Salt River Area PM<sub>10</sub> SIP revision submitted in 2005 determined that stationary sources contribute significantly to exceedances of the 24-hour PM<sub>10</sub> standard that occur under stagnant conditions. That analysis characterized the specific types, number, and size of sources present in the modeling domain; land use; the topography of the area; and the design day specific meteorological conditions present at the monitor recording the exceedance. Attainment demonstrations for nonattainment areas required under the Clean Air Act must to the greatest extent practical depict the actual conditions present that cause exceedances in the nonattainment area. Therefore, the nonattainment area plans for the Phoenix nonattainment area for PM<sub>10</sub> are required under the Clean Air Act, in effect, to address actual local conditions that are unique to a geographical area. Further, the EPA’s latest particulate matter implementation rule, Clean Air Fine Particle Implementation Rule (72 FR 20586, April 25, 2007), identifies “revised opacity standard” in a list of possible stationary sources measures. The rule also lists improved monitoring as a control measure. The EPA notes that improved monitoring control measures would require facilities to pay more attention to the operations of add-on air pollution control devices, work practices, and other control measure activities. The additional attention will reduce periods during which control devices and other control measures do not operate as intended or required. The result would be increased emissions reductions from implementing existing and new rules.

The MCAQD disagrees that there is no coincidence between PM<sub>10</sub> emissions and opacity. Within an individual source, a change in opacity indicates a change in PM emissions. It is not necessary to demonstrate a correlation between mass emissions and opacity across all source categories, when a goal of the standard is to demonstrate compliance with BACT, BACM, and MSM levels of control. Opacity has also long been used as an indicator of visible particulate pollution. In the discussion on improved monitoring control measures in the proposal for the fine particle implementation rule referenced above, the EPA states, "...visible emissions and the opacity of visible emissions are indicators of a change in PM emissions levels..." In the EPA's fact sheet on the rule finalizing Methods 203A, B, and C, the EPA states, "Evaluating the opacity of emissions serves as a surrogate for particulate emissions. Numerous state and federal regulations require that opacity of emissions be measured or monitored." In the EPA's Response to Comments on the Portland Cement Manufacturing NESHAP (page 227), the EPA states, "An opacity limit was established to ensure effective PM control, but opacity is a separately enforced pollutant..." In other NESHAPs, where the EPA uses PM as a surrogate for hazardous air pollutants (HAPs), the EPA consistently states that opacity limits are separately enforceable emissions limits which represent and demonstrate continuous compliance with the MACT floor of particulate HAP control.

**Comment #4:** We are opposed to a zero property line standard. To date we have received no guidance from the County on how this will be regulated with consistency. This requirement also needs to be enforced across all air permits – not just Rule 310 and Rule 316, including Non-Title V and Title V permit holders (their permits state they must follow Rule 310 as well), as well as Rule 310.01 sources, if the County is going to successfully achieve the PM10 reductions than all sources of trackout throughout the County need to be held to the same standard. Stopping drag-out from a site is going to be a constant challenge, either a permitted source is going to create mud at the exit and have trackout (new 25 foot standard) or it will be a little dry and will have property emissions because of drag-out.

**Response #4:** The Maricopa County Air Quality Department (MCAQD) clarified the proposed property line standard to provide more consistent enforcement in Rules 310 and 310.01. The MCAQD withdrew the property line standard from Rule 300 as the routine dust generating operations at stationary sources are subject to Rule 310. The MCAQD will develop a policy/guideline and train compliance staff to ensure consistent enforcement of the property line standard.

As noted in the comment, Rule 310 applies to Non-Title V and Title V permit holders as well as Dust Control Permit holders. The MCAQD inspectors currently address and will continue to address stationary source dust generating operations during site inspections. The MCAQD has included the property line standard in Rule 310.01 that addresses sources that are not required to obtain permits. The MCAQD believes the property line provisions in Rules 310, 310.01 and 316 effectively cover all sources over which Maricopa County has jurisdiction. Un-permitted sources outnumber permitted sources. Many of the new measures in the Five Percent Plan include additional municipal codes and ordinances to address un-permitted sources. The MCAQD is also in the process of adding additional field staff to address un-permitted sources. The MCAQD intends to begin implementation of the new rule provisions upon adoption by the Board of Supervisors.

**Comment #5:** With respect to Section 301.2, APS and SRP agree with the property line standard conclusion in the letter from the Arizona Chamber of Commerce and Industry Air Quality Subcommittee to Ms. Johanna Kuspert dated September 10, 2007. This letter states that promulgating a standard to not allow visible emissions across the property boundary line is unconstitutional and cited *Ross Neely Exp. v. ADE*, and *CF&U v. CAPCC*. Although the context of this letter was with Maricopa County Rule 310 and 310.01, the same legal analysis and conclusion are directly applicable to Rule 300. Section 301.2, as written, is unconstitutionally vague and unenforceable and should, therefore, be removed from this rule. Furthermore, there is no indication that this requirement will result in any reduction in particulate matter emissions, since there is no credible link between opacity and particulate matter emissions.

"The MCAQD's draft Rule 310.01 would relax the regulation of fugitive dust emissions from County-owned unpaved roads, compared to the current air quality requirements for County-owned unpaved roads (Rule 310.10, Section 304) that have been in effect for several years and already are part of the State Implementation Plan (SIP). This unusual proposal to reduce the existing level of fugitive dust regulation for County-owned property stands in contrast to the MCAQD's efforts to increase the regulation of almost every other type of activity that emits fugitive dust within Maricopa County...The changes proposed in the draft rule would be an impermissible relaxation of the SIP. Moreover, the concept of decreasing regulation of County-owned sources of fugitive dust while increasing the regulation of so many other categories of emitters is inequitable."

"In the draft rules, County-owned unpaved roads have fewer and less strict dust control requirements than do business-owned unpaved roads...If the MCAQD intends to impose increased obligations on the business sector, including requirements for business-owned unpaved roads that are more stringent than the requirements for County-owned unpaved roads, then the MCAQD should clearly justify the disparity..."

“At least two other jurisdictions have concluded that absolute prohibitions against visible emissions crossing the property line are unconstitutional. In *Ross Neely Exp. v. ADE*, the Alabama Supreme Court held that a state rule prohibiting visible emissions from crossing the property line: is clearly overbroad, encompassing every situation in which visible fugitive dust emissions move across a lot line, without regard to damage, injury, or inconvenience caused, reasonable attempts to control, etc. This invades the area of protected freedom, severely restricting the use of property, and creates a situation where discriminatory enforcement is almost inevitable. See also, *CF&U v. CAPCC*, 640 P.2d 238 (Colo. App. 1981) (holding that property boundary standard “contravenes fundamental due process rights”).”

**Response #5:** The MCAQD withdrew the property line standard from Rule 300 and further clarified the property line standard in Rules 310 and 310.01 as it applies to fugitive dust. Since stationary sources regulated by Rule 300 are also subject to the fugitive dust limitations in Rule 310, the property line standard in Rule 300 was duplicative of the standard in Rule 310.

The Maricopa County Air Quality Department (MCAQD) does not agree that the property line standard is unconstitutionally vague and unenforceable and does not agree that the requirement will not result in any emission reductions. In 1987, since both court decisions were issued, the EPA refined the national ambient air quality standard for particulate matter to inhalable particulate matter 10 microns or less in aerometric diameter. Unlike the two jurisdictions cited in the comment, the Phoenix PM<sub>10</sub> nonattainment area failed to meet the 24-hour PM<sub>10</sub> standard by December 31, 2006. As a result, residents still have the potential to be exposed to unhealthy levels of PM<sub>10</sub>. Exceedances are recorded under both stagnant and elevated wind conditions. Since secondary aerosols are not significant contributors to the exceedances recorded in Maricopa County, geologic material (e.g. dust) remains the dominant constituent of PM<sub>10</sub>. Locally generated PM<sub>10</sub> significantly contributes to recorded exceedances of the PM<sub>10</sub> standard and can be released from dust generating activities or any unstabilized surface exposing residents to unhealthy levels of particulates.

The property line standard can serve as a simple visual technique to monitor the dust released by the operation. To address the feasibility concerns expressed, the MCAQD clarified the property line standard in Rules 310 and 310.01.

The MCAQD disagrees that there is no credible link between opacity and particulate matter emissions. In fact, the next sentence in the EPA notice cited by the comment states, “Nonetheless, because there is at least an indirect relationship between opacity and PM emissions, including the use of opacity to track the effectiveness of PM control equipment operation ...” The MCAQD’s goal with the change in Rule 300 is to improve the monitoring of dust control measures by providing a simple visual tool that can be applied by employees as well as the MCAQD to evaluate the effectiveness of the dust control measure.

**Comment #6:** Include to the Exceptions section, “The provisions of this rule shall not apply to normal farm cultural practices according to Arizona Revised Statutes (ARS) § 49-457 and ARS § 4957” [*sic*]. This exemption is currently found in Rule 310 and Rule 310.01, Section 103.

**Response #6:** The intent of Rule 300 is to cover sources of visible emissions that are not covered by source-specific rules like Rule 310 and Rule 310.01. Therefore, source-specific exemptions like agricultural activities or construction activities are not included in the Rule 300.

**Comment #7:** Rule 300, Section 302.2 Emergency Diesel Generators and Equipment: All emissions from such sources should be taken into account as sources of PM<sub>10</sub>? Emergency generators and “non-road” engines are exempted. Large engines put out significant amounts of pollution and should be counted.

**Response #7:** This exemption is very limited in scope as it only applies to emergency diesel generators and equipment at nuclear power facilities. All other emergency diesel generators and equipment are subject to the standards of Section 300.

**Comment #8:** With respect to Rule 300, Section 501, APS and SRP agree with the concerns regarding the legality of this change to the existing rule as stated in a letter from Mr. Roger Ferland, on behalf of the Business Coalition, to Mr. Robert Kard dated August 10, 2007. A copy of this letter has been attached for your convenience.

**Response #8:** See Response #3 regarding revision from time averaging to time exception data reduction.

**Comment #9:** There are not classes offered to agricultural producers or livestock owners to become qualified in EPA Reference Method 9, which includes determining 20% opacity. Therefore producers should not be required to comply with a standard for which no training is available. For example a Maricopa County 4-H member (age 9-18) who is raising goats or a community member who keeps horses would be totally unfamiliar with this standard.

County Notices Pursuant to A.R.S. 49-112

**Response #9:** At least two training providers in Maricopa County offer EPA Method 9 Visible Emissions Observation Certification Training to anyone required to complete periodic visible emissions observations: The ASU Environmental Technology Management (ETM) program offers EPA Method 9 Certification training. Information on the ETM training can be found at <http://www.azdeq.gov/environ/air/compliance/smoke.html> or by calling 480-727-1322. In addition, Arizona Smoke School offers Method 9 training. Information on Arizona Smoke School can be found at <http://www.arizonasmokeschool.com/> or by calling 480-226-0945.

**Comment #10:** Reduction in the number of readings for Determination of Visual Opacity (EPA Method 9) from 12 to 24 readings. We believe this along with disallowing the zero readings to become part of the count sets the permitted source up for failure of the opacity test. Once recorded this becomes a possible violation for the permitted source.

**Response #10:** The revision to the data reduction methodology to EPA Method 203B, which is associated with Maricopa County's 20% opacity standard, is intended to further efforts to increase compliance. This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% opacity standard, which results in more consistent compliance with the existing standard.

In 2006 through 2007, the MCAQD conducted a rule effectiveness study and found that compliance with the existing rules is lower than anticipated. The MCAQD conducted an analysis to identify additional measures to reduce emissions and/or improve compliance with existing requirements. In this analysis, the MCAQD reviewed current rules to determine the Most Stringent Measures (MSM) application of the 20% visible emission standard. This included a review of rules from Clark County, Nevada; South Coast Air Quality Management District, California (SCAQMD); and San Joaquin Unified Air Pollution Control District, California (SJUAPCD) in an effort to identify the differences between Maricopa County rules and rules from areas that successfully met the December 31, 2006 attainment date. The MCAQD also reviewed the EPA's notice finalizing Method 203 (A), (B), and (C) (71 FR 55119, September 21, 2006). In the summary of that notice the EPA states, "The intended effect is to provide States with an expanded array of data reduction procedures for determining compliance with SIP opacity regulations." These areas that successfully met the December 31, 2006 attainment date administer rules that utilize a time-exception form of the standard expressed as "...shall not exceed 20% opacity for more than three minutes out of any 60-minute period." This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% visible emission standard and results in a more consistent compliance with the standard.

Areas that successfully met the December 31, 2006 PM<sub>10</sub> attainment date – including Clark County, Nevada; South Coast Air Quality Management District, California; San Joaquin Unified Air Pollution Control District, California; and six out of 14 western states that are members of the Western Regional Air Partnership (WRAP) – all administer rules that include the data reduction methodology adopted in Rule 300. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the proposed standard.

**Comment #11:** Define the term "immediately". This term needs a reasonable timeframe and consistency in draft Rules 300, 310, and 310.01.

**Response #11:** The term "immediately" is not used in Rule 300.

**Comment #12:** Opacity should be measured whenever a plant is operating. Checking opacity at night should be implemented. Using the word "visible" should not limit opacity measurements to sunny days. Find a technique that works at night and use it.

**Response #12:** The MCAQD has set up a class for inspectors to be certified to read opacity at night. After successfully completing the class, inspectors will be certified to measure opacity at night.

**Comment #13:** Item #7 of the Preamble involves "demonstration of compliance with ARS 49-112". This should not be a consideration since A.R.S. § 49-112 conflicts with the Clean Air Act.

**Response #13:** The MCAQD is required to demonstrate compliance with A.R.S. § 49-112 as part of changes to or updates to rules and regulations that are part of a State Implementation Plan (SIP). It is unclear to the MCAQD why the commenter believes A.R.S. § 49-112 conflicts with the federal Clean Air Act.

**14. Any other matters prescribed by the statute that are applicable to the specific department or to any specific rule or class of rules:**

No

**15. Incorporation by reference and their location in the rule:**

EPA Reference Method 9 Rule 300, Section 501

EPA Reference Method 203B Rule 300, Section 501

**16. Was this rule previously an emergency rule?**

No

**17. The full text of the rule follows:**

**REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 300  
VISIBLE EMISSIONS**

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301 LIMITATIONS – ~~OPACITY/GENERAL~~

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501 COMPLIANCE DETERMINATION – OPACITY

~~502 COMPLIANCE DETERMINATION – OPACITY OF VISIBLE EMISSIONS FROM INTERMITTENT SOURCES~~

Revised 07/13/88

Revised 08/05/94

Revised 02/07/01

Revised 03/12/08

**MARICOPA COUNTY**

**AIR POLLUTION CONTROL REGULATIONS**

**REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 300  
VISIBLE EMISSIONS**

**SECTION 100 – GENERAL**

**101 PURPOSE:** To limit the emission of air contaminants into the ambient air by establishing standards for visible emissions and opacity.

**102 APPLICABILITY:** This rule applies to visible emissions from sources for which no source-specific opacity requirements apply. Exceptions to this rule are described in Section 302 of this rule.

**SECTION 200 – DEFINITIONS:** For the purpose of this rule, the following definitions shall apply. See Rule 100 – General Provisions and Definitions of these rules for definitions of terms that are used but not specifically defined in this rule.

~~201~~ INTERMITTENT SOURCE – A source which causes or discharges visible emissions for a duration of less than 6 consecutive minutes.

~~202~~201 OPACITY – A condition of the ambient air, or any part thereof, in which an air contaminant partially or wholly obscures the view of an observer.

~~203~~202 PERCENT OPACITY – The degree to which an effluent plume or any other emission of air contaminants obscures the transmission of light expressed as a percentage.

- ~~204~~**203** **SHUTDOWN** – The cessation of operation of any air pollution control equipment and/or process equipment for any purpose, except routine phasing out of process equipment.
- ~~205~~**204** **STARTUP** – The setting into operation of any air pollution control equipment and/or process equipment for any purpose, except routine phasing in of process equipment.
- ~~206~~**205** **UNCOMBINED WATER** – Condensed water containing no more than analytical trace amounts of other chemical elements or compounds.

**SECTION 300 – STANDARDS**

- 301** **LIMITATIONS – ~~OPACITY/GENERAL~~**: No person shall discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20% opacity for a period aggregating more than three minutes in any 60-minute period.
- 302** **EXCEPTIONS:**
- 302.1** **Charging Electric Arc Furnaces:** When charging or back-charging any electric arc furnace for which construction commenced prior to February 2, 1963, a person may discharge air contaminants, other than uncombined water, in excess of the applicable opacity limit in Section 301 of this rule for no more than an aggregate of three minutes in any 45-minute period; however, visible emissions resulting from such discharge of air contaminants shall not exceed 40% opacity.
- 302.2** **Emergency Diesel Generators (EDGs) and Equipment:** When emergency diesel generators (EDGs) and equipment must run for safety reasons and/or for safety and operational tests to meet the requirements legally imposed by the Nuclear Regulatory Commission, a person may discharge air contaminants, other than uncombined water, in excess of the applicable opacity limit in Section 301 of this rule. Any discharge of air contaminants, other than uncombined water, in excess of the opacity limit in Section 301 of this rule should not contribute to a violation of the national ambient air quality standard.
- 302.3** **Firing of Ordnance at Test Facilities:** Visible emissions exceeding the opacity standards for short periods of time resulting from firing test rounds in enclosed bunkers at ordnance test facilities which do not exceed six minutes in length shall not constitute a violation of Section 301 of this rule.
- 302.4** **Opacity Training:** Equipment or processes used to train individuals in opacity observations shall be exempt from opacity standards during the preparation for and/or during the actual training session(s).

**SECTION 400 – ADMINISTRATIVE REQUIREMENTS (NOT APPLICABLE)**

**SECTION 500 – MONITORING AND RECORDS**

- 501** **COMPLIANCE DETERMINATION – OPACITY:** Opacity shall be determined by observations of visible emissions conducted in accordance with EPA Reference Method 9, ~~except as provided in Section 502 of this rule as modified by EPA Reference Method 203B.~~
- ~~502~~ **COMPLIANCE DETERMINATION – OPACITY OF VISIBLE EMISSIONS FROM INTERMITTENT SOURCES:** Opacity of visible emissions from intermittent sources shall be determined by observations of visible emissions conducted in accordance with EPA Reference Method 9, ~~except that at least 12 rather than 24 consecutive readings shall be required at 15-second intervals for the averaging time.~~

**NOTICE OF FINAL RULEMAKING**

**MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS**

**RULE 314 – OPEN OUTDOOR FIRES AND INDOOR FIREPLACES AT COMMERCIAL AND INSTITUTIONAL ESTABLISHMENTS**

[M08-193]

**PREAMBLE**

- |                                                                                                                                                                                                                                                                                                                                             |                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| <p><b>1. <u>Sections affected</u></b><br/>Rule 314</p> <p><b>2. <u>Statutory authority for the rulemaking:</u></b><br/>Authorizing Statutes: A.R.S. §§ 11-251.63, 11-871, 49-112 (A), 49-479, and 49-501<br/>Implementing Statute: A.R.S. §§ 9-479 and 9-501</p> <p><b>3. <u>The effective date of the rule:</u></b><br/>March 12, 2008</p> | <p><b><u>Rulemaking Action</u></b><br/>Amend</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|

**4. List of all previous notices appearing in the register addressing the final rule:**

Notice of Rulemaking Docket Opening: 13 A.A.R., 2600, July 20, 2007

Notice of Proposed Rulemaking: 13 A.A.R., 3880, November 9, 2007

**5. Name and address of department personnel with whom persons may communicate regarding the rulemaking:**

Name: Patricia P. Nelson or Jo Crumbaker  
Maricopa County Air Quality Department

Address: 1001 N. Central Ave., Suite 595  
Phoenix, AZ 85004

Telephone: (602) 506-6709 or (602) 506-6705

Fax: (602) 506-6179

E-mail: pnelson@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

**6. Explanation of the rule, including the department's reasons for initiating the rule:**

Maricopa County is amending Rule 314 in response to the passage of Senate Bill 1552 by the Arizona Legislature in June 2007. The County is also amending this rule due to the statutory requirements listed in the recently enacted Senate Bill 1552 and also in relation to commitments made in the Five Percent Plan for PM<sub>10</sub>. Since the area did not attain the PM<sub>10</sub> standard by December 31, 2006, the area must submit to the U.S. Environmental Protection Agency (EPA) a Five Percent Plan for PM<sub>10</sub> by December 31, 2007. The Five Percent Plan for PM<sub>10</sub> must demonstrate 5% reductions per year in emissions from the date of submission to the EPA. As part of this rulemaking authority, the County may add, delete, or modify additional rules and ordinances as necessary.

The amended rule prohibits certain types of open outdoor burning in Maricopa County except the types of open outdoor burning listed in Sections 302, 303, 304, 305 and the Appendix to Rule 314. The amended Rule 314 limits certain types of open burning during restricted-burn periods and further prohibits some types of open burning during the period from May 1 to September 30 of each year (during the ozone season). These restrictions will reduce the emissions of air contaminants such as particulate matter, nitrogen oxides (NO<sub>x</sub>) and volatile organic carbon (VOC), by limiting certain types of open burning by non-residential sources during these times of the year when the ozone is expected to exceed standards.

The amended rule also prohibits all indoor burning using fireplaces in commercial, non-residential establishments, such as hotels and restaurants, during Restricted-Burn Periods with the exception of those that use gaseous fuels.

Maricopa County is amending the requirements and specifications for air curtain destructors in Rule 314 and in the Appendix to Rule 314. The use of air curtain destructors is prohibited in the amended rule if there is no firebox in the air curtain destructor wherein the burning takes place. Open pits above or underground are prohibited in the amended rule. Open outdoor fires for the burning of indigenous scrub cleared for the purpose of construction operations is no longer allowed. This would also apply to air curtain destructors used for this purpose. Air curtain destructors will still be allowed to be used in agricultural operations. Many agricultural operations using air curtain destructors take place in non-attainment areas while pre-construction clearance is common in all areas of Maricopa County.

The federal New Source Performance Standard 40 CFR, Part 60, Subpart EEEE and the federal emission guideline, Subpart FFFF, were promulgated on December 16, 2005 by the EPA. Subpart EEEE mandates Title V permits for certain types of air curtain destructors, both existing and new. The amended Rule 314 also mandates that sources obtain Title V permits if using an air curtain destructor and approval of a submitted Burn Plan by the Control Officer prior to burning. Arizona Department of Environmental Quality (ADEQ) is the state agency that will be issuing the Title V permits for air curtain destructors and it will be a General Permit.

There is also some amended text listed in the Appendix to Rule 314. These amendments are considered good management practices for outdoor burns in air curtain destructors and are concerned with the proper placement and functioning of these units.

The amendments also add four new definitions: Area A, firebox, prohibited fuels, and wood-burning chimineas.

**Section by Section Explanation of Changes for the Amended Rule 314:**

Title: Changes the title of the rule to reflect the addition of indoor fireplaces at commercial and institutional establishments.

Section 101: Adds text to include the indoor fireplaces at commercial and institutional establishments.

Section 201: Adds text to redefine air curtain destructors.

Section 202: Adds a definition for "Area A" and thus the remaining definitions are renumbered.

Section 207: Adds the definition of "firebox" to the rule and thus the remaining definitions are renumbered.

Section 209: Deletes the word "construction" from the text.

Section 211: Adds the definition of "prohibited materials" to the text and thus the remaining definitions are renumbered.

Section 213: Adds the text "or when there is increased fire danger" to the end of the definition.

Section 214: Adds the definition of "wood-burning chimineas" to the rule.

Section 301: Adds a reference to the Appendix of Rule 314.

Section 302: Changes the title of the Section to "Open Outdoor Fires Required to Obtain a Burn Permit" and clarifies and streamlines the language that was originally in Section 302 regarding outdoor fires that require a permit. Also deletes text regarding Title V, non- Title V, and General Permits which has been placed in Section 402.5.

Section 302.1: Amends the text to reflect a new category of fires that are prohibited during Restricted-Burn Periods in Maricopa County but allowed during May 1 to September 30 of each year in Area A. Subsection 302.1(c) adds the phrase "fire-fighting training areas and structures" to this section and changes the reference to Section 303.2b.

Subsection 302.2: Amends the text to reflect a new category of fires that are prohibited during Restricted-Burn Periods in Maricopa County and also prohibited from May 1 to September 30 Each Year in Area A.

Section 303: Renames the section heading from "EXEMPTIONS" to "OPEN OUTDOOR FIRES NOT REQUIRED TO OBTAIN A BURN PERMIT."

Section 303.1: Amends the text to reflect the category of fires that are allowed at any time in Maricopa County or Area A.

Section 303.2: Amends the text to reflect the type of fires prohibited during Restricted-Burn Periods in Maricopa County.

Section 303.3: This amendment amends the text to reflect the type of fires prohibited during Restricted-Burn Periods in Maricopa County and also prohibited from May 1 to September 30 of each year in Area A.

Section 304: Adds text that addresses open outdoor fires in an air curtain destructor.

Section 305: Adds text that addresses conditions that apply to the type of fires allowed per Sections 302, 303 and 304.

Section 306: Prohibits indoor burning in fireplaces in commercial establishments with the exception of those using natural gas.

Section 400: Adds text to expand the title of "Administrative Requirements" for Burn Permits and Burn Plans.

Section 401: Adds text to include air curtain destructors' burn plans.

Section 402.4: Deletes the text stating that the County cannot issue permits for its own burning activities. It also adds text stating that permission for setting any fire given by a public officer in the performance of official duty shall be given in writing.

Section 402.5: Adds the text regarding Title V, Non-Title V, and General permits which is removed from Section 302 and also adds text that addresses burn plans.

Section 406: Adds text describing the Burn Plan application and the length of time given to the Control Officer to approve the plan.

Section 406.1: Adds text stating that a separate, site-specific Burn Plan application is required for each burn site location.

Section 406.2: Adds text that lists the minimum requirements that should be contained in a Burn Plan application.

Section 406.3: Adds text to state that an on-site inspection shall be conducted before the Control Officer shall approve the Burn Plan application.

Section 406.4: Adds text to state that the issuance of an approved Burn Plan shall not relieve the permittee from any other requirements that the local fire department may impose on the source.

Section 406.5: Adds text to state that the Control Officer may impose additional conditions in order to comply with Federal and State laws as well as Rule 314.

Section 406.6: Adds text to state that the Control Officer shall deny a Burn Plan application if the material or operations of the source do not meet the criteria described in this rule.

Section 501.1: These amendments delete the Subsection references that were previously listed in this Subsection and replaces them with the Subsection references that are now relevant or pertinent to the specific reference.

Section 503: Adds Section 503: Program Review. Text in this section includes text from previous Sections 502.3 and 502.4, which have been deleted.

Section 503.1: This amendment places the text from the adopted Rule 314, subsection 502.3 into a new subsection 503.1.

Section 503.2: Places the text from the adopted Rule 314, subsection 502.4 into a new subsection 503.2.

**Appendix to Rule 314:**

Title: This amended text deletes the term "Burn Pit" and replaces it with the term "Firebox."

Section A: Deletes the word "burn pit requirements" and replaces it with the words "Air Curtain Destructor Requirements" and also states that the air curtain destructor rather than the pit must be approved by the Control Officer.

Section A 1: Replace the text "The pit must not exceed the length of the plenum" with the text "The length of the firebox must not exceed the length of the plenum."

Section A 2: Deletes the provision stating that the width of the pit must not exceed 8 feet and replaces it with text that states that the firebox shall be lined with refractory materials.

Section A 3: Deletes the text stating that the depth of the pit shall be a minimum of 15 feet and replaces it with text stating that the depth of the firebox shall be of such a distance as to be below the curtain of air created by the air curtain destructor.

Section A 4: Deletes the text stating that the maximum erosion width must not exceed 12 feet and replaces it with text stating that the width of the firebox shall not extend beyond the length of the nozzle action.

Section A 5: Adds text stating that the sides of the pit shall have four stable vertical sides.

Section A 6: Adds text stating that if the location of an air curtain destructor shall be moved, the location will first be inspected by the Control Officer.

Section A 7: Deletes text stating location of a pit shall be changed, the location will first be inspected by the Control Officer. The text is now in Section A-6

Section B 1: Adds text stating that a firebox and not a pit or trench shall be used to conduct burning in an air curtain destructor.

Section B 2: Deletes the word "pit" and replaces it with the term "firebox."

Section B 3: Adds text stating the minimum amount of feet (1,000 ft.) allowed between two air curtain destructors.

Section B 4: Adds text stating that there shall be at least 500 feet from any air curtain destructor to any residence or building structure.

Section B 5: Adds text stating that there shall be at least 500 feet from any air curtain destructor to any pipeline or fuel storage area.

Section B 6: Adds text stating that there shall be at least 250 feet from any air curtain destructor to any power lines.

Section B 7: Adds text stating that material to be burned or stockpiled shall be kept at least 75 feet from the air curtain destructor while a burn is taking place.

Section C 1: States that the proper blower speed shall be maintained according to manufacturer's specifications and deletes the text stating that the speed must be maintained to meet emission standards.

Section C 2: Deletes the word "pit" and replaces it with the term "firebox".

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Section D: Deletes the word "pit" and replaces it with the term "firebox".

Section D 1: Deletes the word "pit" and replaces it with the term "firebox".

Section D 2: Deletes the word "pit" and replaces it with the term "firebox".

Section D 3: Deletes the word "pit" and replaces it with the term "firebox".

Section E: This amendment deletes the word "pit" and replaces it with the term "firebox".

Section F: Change the times allowed for open outdoor burning by changing the possible time of starting an open outdoor fire to 10 a.m. from 8 a.m. and also by removing the clause stating that rubber and plastic are prohibited from being burning. There is now a definition for prohibited materials in Section 211 which includes rubber and plastic.

**7. Demonstration of compliance with A.R.S. § 9-112:**

Under A.R.S. § 9-479(C), a county may not adopt a rule or ordinance that is more stringent than the rules adopted by the Director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the requirements of A.R.S. § 9-112.

**A.R.S. § 9-112 (A)**

When authorized by law, a county may adopt a rule, ordinance, or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition;
2. There is credible evidence that the rule, ordinance or other regulation is either:
  - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
  - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule, ordinance or other regulation is equivalent to federal statutes or regulations.

The Phoenix metropolitan area is the only area of the state currently designated as a nonattainment area for the 8-hour ozone National Ambient Air Quality Standards (NAAQS). The area was also reclassified to attainment and is implementing a maintenance plan approved by EPA to ensure that the area continues to attain the carbon monoxide (CO) standard. Maricopa County Air Quality Department (MCAQD) is proposing revisions to Rule 314 in order to address EPA's finding that the Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline mandated in the Clean Air Act (CAA), December 31, 2006 (72 FR 31183, June 6, 2007). The Phoenix nonattainment area is the only nonattainment area designated serious for PM<sub>10</sub> in Arizona. Consequently stronger regulations must be adopted in this area to address a serious health threat. Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas that fail to attain are required to submit within 12 months of the applicable attainment date, "plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared for such area." In accordance with the CAA section 179(d)(3), the attainment deadline applicable to an area that misses the serious area attainment date is as soon as practicable. The Maricopa Association of Governments submitted a Five Percent Plan for PM<sub>10</sub> to the U.S. EPA in December 2007. The Phoenix nonattainment area is one of three areas in the entire country for which EPA has issued a finding that Section 189(d) has been triggered. Because of these factors, the revision complies with A.R.S. §§ 49-112(A)(1) and (A)(2). Several of the revisions to Rule 314 are required by A.R.S. § 49-501 that was recently enacted in Senate Bill 1552. Therefore a demonstration of compliance with A.R.S. § 49-112 as required by the County's general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to these rule provisions.

**8. Reference to any study relevant to the rule that the department reviewed and either relied on in its evaluation of or justification for the rule or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

No studies were used.

**9. Showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable

**10. Summary of the economic, small business, and consumer impact:**

**Rule Identification**

Amended Rule 314 prohibits certain types of open outdoor burning in Maricopa County and also prohibits burning in indoor fireplaces that use fuels other than natural gas at commercial and institutional establishments during restricted-burn days and/or during the ozone season of May 1 to September 30 in Area A (Area A is defined in the amended rule in Section 202). Section 300 of the amended rule states that any open outdoor fires are prohibited unless they are listed in Sections 303, 304, 305, and Appendix 314 of amended Rule 314. The use of air curtain destructors is not allowed in the County for the purpose of clearing out vegetative shrub and debris for pre-construction clearance operations. The amendments to Rule 314 now restricts the times of the year and the hours of the day when some of these open burning activities will be allowed to be conducted, whether the activity requires a Burn Permit or does not. In addition, all sources allowed to conduct open outdoor burning are now required to call the Control Officer and local fire department prior to initiating the burn in order to either obtain permission to burn for each day of the planned burning event (those that require a Burn Permit); or to find out if a Restricted-Burn Day has been declared (those that do not require a Burn permit). Some of the open outdoor fire activities that need to obtain a Burn Permit shall also be restricted from burning during the ozone season from May 1 to September 30 each year in Area A: namely the destruction of tumbleweeds for the prevention of fire hazards and the burning of tumbleweeds prior to conducting agricultural operations.

**Entities Affected**

Open outdoor burning may be done by many entities for a variety of purposes such as dangerous material disposal, fire-fighting training, site preparation, weed control, and disease and pest prevention. Open outdoor burning has been conducted by a broad range of entities including members of the agricultural community, cities and counties, state and federal agents, law enforcement departments, private industries that burn debris in vegetative debris in air curtain destructors, private industries that conduct fire extinguisher training, fire fighters, companies who test explosive-containing products for commercial, military and law enforcement uses, cattlemen and ranchers who brand animals, military service, and veteran institutions that properly dispose of American flags, and groups who conduct cinematic and theatrical functions using fireworks. The amendments to Rule 314 also affects the agencies that issue Burn Permits such as MCAQD and ADEQ and private industries such as those who either manufacture, market, or use chimineas and air curtain destructors. Also included in the amended rule are amendments which would limit burning in indoor fireplaces except if using natural gas for a fuel in hotels, restaurants, and clubs for ambience and warmth during Restricted-Burn Periods.

**Potential Impact**

There have been a total of 18 Restricted-Burn Days in each of the years 2006 and 2005, and only 1 in 2004. Therefore there is little or no anticipated financial impact on a source by moving a scheduled burn to another day when the air quality is forecasted to be good rather than burn on a Restricted-Burn Day when the dispersion is not as great. The amount of total burning will most likely remain the same.

The restrictions on the times of year to conduct open outdoor burning are not expected to have any effect on revenues or payroll expenditures of the sources that are subject to the sections of the amended Rule 314 refraining from open outdoor burning since the restrictions are to prohibit this activity during a certain time of the year only. The amendments to the rule also involve mandating a phone call to the Control Officer before performing certain types of outdoor burning either to ask permission for a burn or to check to see if a Restricted-Burn Day has in fact been declared. This phone call is not expected to impact payroll expenditures of the sources involved either.

The restrictions on chimineas are not expected to impact revenues of chimenea manufacturers or marketers in any measurable amount. Weather conditions in the Phoenix area are exceedingly hot and sunny from May to September. Temperatures range from the high 90's to the mid 100's during this time in the day when chimineas are to be prohibited. Therefore residents and businesses are not apt to use their chimeneas in the evening or night from May to September when temperatures are still in the 80's and 90's.

Chimeneas are now prohibited from burning on Restricted-Burn days, but the number of Restricted-Burn days has been averaging 7 days each year in the years of 2005 and 2006. Seven days of restricted burning should not be a financial burden for the chimenea industry in the area.

Hotels and restaurants that wish to burn any fuel other than natural gas in fireplaces also are subject to a prohibition during Restricted-Burn Periods and this also involves a call to the County to determine whether there is a Restricted-Burn Day. This phone call should not be a financial burden on the sources affected by this rulemaking. Thus there should be minimal time and costs associated with the act of calling the County or checking their web site. If a Restricted-Burn day has been declared, then the hotel or restaurant is not able to use their indoor fireplace on these days unless it is natural gas. This should not cause any impact on their revenues or financial burden on them.

The requirement to obtain a General Title V permit for an air curtain destructor under the new general permit issued by the ADEQ will cost a source \$840 and the cost of obtaining a Burn Plan approved by the Control Officer will cost \$350. There were only a total of 7 air curtain destructor burn permits issued last year in Maricopa County. With the amendments to Rule 314 regarding banning air curtain destructors for the purposes of construction preparation, there will even be less air curtain destructor permits issued in Maricopa County. Air curtain destructors are only one method used for land clearance; there are other alternatives for land clearance such as chipping, mulching, composting, and landfilling.

By Maricopa County banning air curtain destructors for land clearance for construction purposes, the sources that use these means will have to use other methods for land clearance.

The other amendments that are listed in the Appendix of the Rule 314 dealing with air curtain destructors should not bring any financial burden to the owners or operators of these units that are using them for agricultural operations because the amendments deal with location requirements (e.g. how close to a residence or power line that an air curtain destructor shall be set up, how deep the firebox shall be, and that the air curtain destructor shall be operated according to manufacturer's specifications). These are considered good operating techniques for managing a fire using an air curtain destructor and many of them are already in practice.

### County Costs

Enforcement of the amendments to Rule 314 by MCAQD may result in a slight increase in costs to Maricopa County. There will not be an increase in the cost for the number of phone calls to the Department to determine if a Restricted-Burn Day has been declared because the phone line is an automated one, but there will be an increase in time for approval of Burn Plans that would be submitted by an owner or operator of an air curtain destructor for agricultural purposes. There were a total of 7 air curtain destructor permits issued in 2005 and a total of 19 air curtain destructor permits issued in 2006 in Maricopa County. Therefore it is plausible that approximately 19 Burn Plans will be approved next year due to the prohibition of the use of air curtain destructors for construction purposes. It is estimated that it will take from 2–4 hours to approve one Burn Plan; therefore the costs to the County would be approximately 38 hours per year or one week of manpower. It is not expected to require the hiring of any more County personnel to perform this task.

### State Costs

As stated in the Notice of Proposed Rulemaking, Maricopa County is tasked with the compliance and enforcement of Rule 314 in the County. ADEQ is the agency that will issue the General Title V Permits for Air Curtain Destructors. In the Notice of Proposed Rulemaking for this Rule 314, it was stated that the number of manpower hours for the Arizona Department of Environmental Quality (ADEQ) to process General Permits for Air Curtain Destructors would be quantified. The ADEQ General Permit is already in place and ADEQ is not affected by the amendments to MCAQD's Rule 314; therefore there will be no costs associated with the adoption of Rule 314 to ADEQ. It is estimated that the number of hours to add an owner or operator to the general permit from ADEQ will be 2-4 hours, but ADEQ would issue these anyway whether Maricopa County made any changes to the rule or not.

No significant impact on state revenues from the amended rule shall be expected since the majority of the amendments to the rule prohibit certain types of burning during Restricted-Burn periods and the ozone season.

### Health Impacts

The 2005 PM<sub>10</sub> emission inventory estimates that open burning produces 11.5 tons/year of PM<sub>10</sub>. This source category represents 0.013% of the inventory for the nonattainment area. This estimate, however, only accounts for emissions from permitted burns. No estimate of the emissions produced by unpermitted burns is included in the inventory. There is no data in the County on the frequency of occurrence of unpermitted open burns. A review of the complaint files at the County is roughly double the number of permitted burns. Assuming the same material is burned in unpermitted burns and the complaints quantify the extent of the activity, the level of PM<sub>10</sub> emitted is roughly 23 tons/year.

This amended rulemaking reduces the amount of certain priority pollutants such as particulate matter, carbon monoxide and volatile organic carbon (VOC) during Restricted-Burn Periods and from the ozone season from May 1 to September 30 of each year. On average, approximately 200 pounds of particulate matter emission per acre are generated from prescribed wildland burning. The amendment to shift burning to days that are not restricted burn days will shift emissions from days of poor dispersion to days that have good capacity to safely disperse smoke and resultant emissions. This should result in health benefits to the public. Health benefits accrue to the general public whenever enforcement of environmental laws takes place. Adverse health effects from air pollution result in a number of economic and social consequences, including:

1. Medical costs: These include personal out-of-pocket expenses of the affected individual (or family), plus costs paid by insurance or Medicare, for example.

2. Work loss: This includes lost personal income, plus lost productivity whether the individual is compensated for the time or not. For example, some individuals may perceive no income loss because they receive sick pay, but sick pay is a cost of business and reflects lost productivity.

3. Increased costs for chores and caregiving: These include special caregiving and services that are not reflected in medical costs. These costs may occur because some health effects reduce the affected individual's ability to undertake some or all normal chores, and she or he may require caregiving.

4. Other social and economic costs: These include restrictions on or reduced enjoyment of leisure activities, discomfort or inconvenience, pain and suffering, anxiety about the future, and concern and inconvenience to family members.

Improvement in air quality will generate cost-saving benefits by avoiding adverse-health effects, such as emergency room visits, hospital admissions, acute pediatric bronchitis, chronic adult bronchitis, acute respiratory symptom days, and even premature death. Potential benefits arising from a reduction in PM and other pollutants emitted into the atmosphere can be inferred from data associated with the reduction of any airborne PM.

Some of the health effects of human exposure to PM can be quantified while others cannot. Quantified adverse-health effects include: mortality, bronchitis (chronic and acute), new asthma cases, hospital admissions (respiratory and cardiovascular), emergency room visits for asthma, lower and upper respiratory illness, shortness of breath, respiratory symptoms, minor restricted activity days, days of work loss, moderate or worse asthma status of asthmatics. Unquantifiable adverse-health effects include: neonatal mortality, changes in pulmonary function, chronic respiratory diseases (other than chronic bronchitis), morphological changes, altered host defense mechanisms, cancer, and non-asthma respiratory emergency room visits (U.S. EPA, "The Benefits and Costs of the Clean Air Act 1990 to 2010," Chapter 5, "Human Health Effects of Criteria Pollutants," Table 5-1, Report to Congress, November 1999).

Epidemiological evidence shows that particulates have negative health impacts in a variety of ways, including: increased mortality and morbidity; more frequent hospital admissions, emergency room and clinician visits; increased need and demand for medication; and lost time from work and school. There is also increasing evidence that ambient air pollution can precipitate acute cardiac episodes, such as angina pectoris, cardiac arrhythmia, and myocardial infarction, although the majority of PM-related deaths are attributed to cardiovascular disease (The EPA's Particulate Matter (PM) Health Effects Research Center Program, prepared by PM Centers Program staff, January 2002).

New evidence also links exposure to ambient PM concentrations to airway inflammation that in turn produces systemic effects, such as acute phase response with increased blood viscosity and coagulability, as well as increased risk of myocardial infarction in patients with coronary artery disease. Chronic effects of repeated airway inflammation may also cause airway remodeling, leading to irreversible lung disease. Individuals with asthma and chronic obstructive pulmonary disease may be at even higher risk from repeated exposure to particulates (The EPA's Particulate Matter (PM) Health Effects Research Center Program).

The Health Effects Institute confirmed the existence of a link between particulate matter and human disease and death (premature mortality). The data revealed that long-term average mortality rates, even after accounting for the effects of other health effects, were 17-26% higher in cities with higher levels of airborne PM (Health Effects of Particulate Air Pollution: What Does The Science Say? Hearing before the Committee on Science, House of Representatives, 107th Congress of the U.S., second session, May 8, 2002). Data further reveal that every 10-microgram increase in fine particulates per cubic meter produces a 6% increase in the risk of death by cardiopulmonary disease, and an 8% increase for lung cancer. Even very low concentrations of PM can increase the risk of early death, particularly in elderly populations with preexisting cardiopulmonary disease (STAPPA and ALAPCO, Controlling Particulate Matter Under the Clean Air Act: A Menu of Options, July 1996).

In 2007, the national estimated annual cost for chronic obstructive pulmonary disease \$42.6 billion costs (American Lung Assoc., Trends in Chronic Bronchitis and Emphysema: Morbidity and Mortality, Epidemiology and Statistics Unit, Research and Scientific Affairs, September 2007). This cost includes direct health care expenditures of \$26.7 billion, \$8.0 billion in indirect morbidity costs and \$7.9 billion in indirect mortality costs.

In Arizona, deaths attributable to asthma have equaled or exceeded national rates from 1991-1998. In 1998, some 316,200 Arizonans suffered breathing discomfort or asthma related stress (Arizona Department of Health Services, Asthma Control Program, Office of Nutrition and Chronic Disease Prevention Services, October, 2002).

Maricopa County expects that a reduction in PM potentially will create commensurate cost-saving benefits to the general public by contributing towards reducing these emissions-related health problems. The amendments to Rule 314 will help improve the general quality of life for citizens of Arizona, particularly those residing near sources that will have reduced

**County Notices Pursuant to A.R.S. 49-112**

PM emissions and other air pollutants associated with open outdoor burning during Restricted-Burn Periods and during the ozone season from May 1 to September 30 each year.

The total emissions reductions from the ban on open burning during the ozone season is expected to be 8 tons per year of VOC, 4 tons per year of NO<sub>x</sub> and 6 tons per year of particulate matter. The total emissions reduction on outdoor burning during Restricted-Burn Periods is expected to be 12 tons per year of particulate matter.

Health benefits can be expressed as avoided cases of PM related-health effects and assigned a dollar value. EPA used an average estimate of value for each adverse-health effect of criteria pollutants. Table 6-1 contains valuation estimates from the literature reported in dollars per case of chronic bronchitis avoided. For example, the Table shows a value of \$401,000 (2006 dollars) per case of chronic bronchitis avoided. An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others (i.e. children and the elderly).

**Table 6-1. Monetized Adverse-Health Effects Avoided From Exposure to PM**

<b>Adverse Health Effect *</b>	<b>Per Case Valuation (1990 dollars)</b>	<b>Per Case Valuation (2006 dollars)</b>
Mortality	\$4,800,000	\$7,403,800
Chronic bronchitis	\$260,000	\$401,000
Hospital admissions for respiratory conditions	\$6,900	\$10,640
Hospital admissions for cardiovascular conditions	\$9,500	\$14,650
Emergency room visits for asthma	\$194	\$299
Acute Bronchitis	\$45	\$69
Asthma attack	\$32	\$49
Moderate or worse asthma day	\$32	\$49
Acute respiratory symptom	\$18	\$28
Upper respiratory symptom	\$19	\$29
Lower respiratory symptom	\$12	\$19
Shortness of breath, chest tightness, or wheeze	\$5	\$8
Work loss day	\$83	\$128
Mild restricted activity day	\$38	\$59

\* An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others, i.e., children and elderly.

Source: Derived from U.S. EPA, 1999b. According to EPA, cost values of these illnesses tend to underestimate the true value of avoiding these adverse-health effects. Mean estimates of willingness-to-pay (WTP) were used to derive values, unless WTP values were not available, in which case, the cost of treating or mitigating the effects was used. The value of an avoided asthma attack, for example, would be a person's WTP to avoid that symptom.

Mortality in Table 6-1 actually refers to statistical deaths, or inferred deaths due to premature mortality. The values have been adjusted for inflation. According to the Consumer Price Index for all urban consumers ( U.S. Department of Labor, Bureau of Labor Statistics), the purchasing power of the dollar has declined about 54 percent between 1990 and 2006.

A small decline in the risk for premature death will have a certain monetary value for individuals, and as such, they will be willing to pay a certain amount to avoid premature death. For instance, if PM emissions are reduced so that the mortality risk on the exposed population is decreased by one in one-hundred thousand, then among 100,000 persons, one less person will be expected to die prematurely. If the average willingness-to-pay (WTP) per person for such a risk reduction were \$75.00, the implied value of the statistical premature death avoided would be 7.5 million dollars.

This economic impact statement (EIS) was developed to estimate the impact of the final rule. This impact statement is comprised of potential costs and benefits.

**11. Description of the changes between the proposed rule, including supplemental notices, and final rule:**

In the Notice of Proposed Rulemaking (NPR), there were some typographical errors in that some of the amended or new text in the proposed rule was not underlined and shown as new text. In that document the new, amended text was listed in the preamble as being new text and in the list of changes, Section 5, of the NPR. In this Draft Notice of Final Rulemaking the text is correctly shown as underlined text. The sections listed below were the following sections that were not underlined:

Section 101: The text "and from indoor fireplaces at commercial and institutional establishments" needs to be shown as new text and underlined.

Section 102: The text "and burning in indoor fireplaces at commercial and institutional establishments" needs to be shown as new text and underlined.

Section 201: The words "firebox" and the word "burning" are new text. The second sentence is new text: "Above-ground air curtain destructors are the only type of air curtain destructor that are allowed in Maricopa County."

Section 202: The entire definition of Area A is new text and needs to be underlined.

Section 302: The title: "Fires Prohibited During Restricted-Burn Periods in Maricopa County, But Allowed From May 1 to September 30 Each Year in Area A" needs to be shown as new text and underlined.

Section 303.1: The title "Fires Allowed At Any Time of The Year In Maricopa County or Area A" needs to be shown as new text and underlined.

Section 400: The section title "FOR BURN PERMITS AND BURN PLANS" needs to be shown as new text and underlined.

Appendix Sections A and B: The text in Section A, Number 1-6 and B, Number 1-7 needs to be shown as new text and underlined.

**The changes between the proposed rule and the final rule are the following:**

Section 211: The term "sensitive or classified wastes" has been deleted from the definition of prohibited materials.

Section 211: The term "green plants" has been deleted from the definition of prohibited materials.

Section 302: The word "both" after the word "call" in the second sentence has been added and the term "owner or operator" was changed to "person conducting the fire."

Section 302.1(d): The text "In addition " has been added to the text.

Subsection 302.1d (4): The term "by the Control Officer" has been added to the first and the last sentences.

Subsection 302.1d(3): The term "by the Control Officer" has been added to the sentence.

Subsection 303.3: The term "owner or operator of any type of fire" has been deleted and replaced with "The person".

Section 304: The text "conducting an open outdoor fire in an air curtain destructor the owner or "has been added to the text after the words "prior to."

Section 503.1: The term " annually" has been added to the text that was inadvertently omitted from the original rule.

Appendix: The text limiting the size of an air curtain destructor to 10 feet has been removed from Section A.

None of the changes between the Notice of Proposed Rulemaking and the Notice of Final Rulemaking are substantive.

**12. Summary of the comments made regarding the rule and the department response to them:**

**Comment #1:** Section 201: One commenter submitted two comments regarding permits and suggested that the in last sentence that the word "permitted" be substituted for "allowed." The commenter further asked whether air curtain destructors will be allowed to operate with out a permit. Could a general permit be developed to encompass multiple burn sites?

**Response #1:** The term "allowed" in this definition is being used as a verb in the most common use of the term (see Webster's New Collegiate Dictionary). A definition in a rule is not a standard. In Maricopa County Rules, the need to obtain a permit from the County is important enough to be addressed in the Standards section (Section 300) of a rule and not in the Definitions section of a rule (Section 200). In this particular case, the intent of this definition is to show that only above ground types of air curtain destructors are to be used in Maricopa County and not open pits in the ground.

The County is not planning on developing a general permit at this time. Arizona Department of Environmental Quality (ADEQ) has a general permit at this time. The general permit does encompass multi-sites, but the general permit requires an individual burn plan specific to one single location.

**Comment #2:** Section 205: One commenter submitted four comments on air curtain destructors. They suggested that the operation of an air curtain destructor be included as an ERT. The air blowers add oxygen and turbulence to promote a more complete burn of the material and thereby reduce the production of particulate and also suggested that "Proper operation of an air curtain destructor does not constitute open burning" be added. Slash pile fires, fence row fires are characterized by smoke and elevated VOCs. A properly operated air curtain destructor would have considerably less

emissions compared to open burning. In Great Britain, the operation of an air curtain destructor was used to incinerate cow carcasses infected with mad cow disease.

They also suggested that in § 302.1 the subsection will be revised to read: Open outdoor fires, including the operation of an air curtain destructor, for the control of weeds and other vegetation for the prevention of fire and other hazards when such fires are declared necessary by a public official in the performance of their official duties and in § 305.7 we suggest that an air curtain destructor be allowed to burn less than 6" diameter material upon Control Officer written approval. Also allow the burning of prohibited material in an air curtain destructor upon written request and written approval. In the case of natural disasters, national emergencies, and military operations, the operation of an air curtain destructor may be a key component in a governmental response plan. Great Britain authorized the operation of air curtain destructors to destroy cow carcasses infected with bovine spongiform encephalopathy (BSE) or "mad cow disease."

And in § 303.2, is it MCAQD's intention to restrict open burning and the operation of air curtain destructors outside the boundaries of non-attainment areas in Maricopa County? The proposed language suggests western non-urbanized areas, particularly are included in such a ban.

**Response #2:** We continue to consider burning in an air curtain destructor (ACD) a type of open burning even if properly operated. It is a type of controlled open burning. Arizona Revised Statutes § A.R.S. 49-501 (B) defines "open outdoor fires as used in this section, means any combustion of combustible material of any type outdoors, in the open where the products of combustion are not directed through a flue." A flue is also defined in this Rule 314 as "any duct or passage for air or combustion gases, such as a stack or chimney." The type of ACD that has been operating in Maricopa County does not vent to a flue or stack, but rather vents via an open top directly to the atmosphere.

Air curtain destructors (ACDs), if operated correctly, do result in less emissions than other methods of open burning. But unfortunately due to the highly transient nature of the ACD combustion process coupled with a minimal degree of operational control and significant variability in debris properties, the prediction of ACD emissions is quite variable. Granted that some local air quality agencies have listed them as Emission Reduction Techniques or ERTs, Maricopa County considers the use of an ACD to be an open burn and prohibits their use for land clearance for pre-construction purposes. Rule 314 also further restricts their usage by imposing operational and siting requirements in the Appendix to Rule 314 even when used for agricultural clearance. Maricopa County has received many citizen complaints about the operation and location of ACDS. Some ACDS have even been used in direct proximity to a hospital.

The County is not totally banning the use of air curtain destructors. Use of an air curtain destructor is allowed in Maricopa County for certain activities addressed in the rule. Use of an ACD is not allowed in the County for one activity any longer after March 12, 2008 and that one activity is land clearance for construction purposes only.

Maricopa County is not prohibiting the burning of these smaller materials in an air curtain destructor per subsection 305.7. Maricopa County is stating that an air curtain destructor must be used if the pieces of vegetative material are greater than 6 inches. 6 inches is a common cutoff size in the realm of agricultural burning drying times for vegetation before burning it. Material greater than 6 inches takes a longer time to dry ( up to six weeks), while material smaller than 6 inches will take 3–6 weeks to dry.

In the case of national disasters, national emergencies and military operations, subsection 305.1 of Rule 314 does allow for burning of prohibited materials per the activities listed in subsections 303.2, 303.2(b) 303.2 (c), 303.2 (d) and 303.2 (e). In subsections 302.1(a) and 302.1(b) of Rule 314, it states that the County Agricultural agent can declare necessary such fires that have been determined as essential for the purposes of disease and/or pest prevention and for the control of weeds for the prevention of fire hazards when such fires are declared necessary by a public officer in the performance of his official duties.

Maricopa County Air Pollution Rules and Regulations have long applied to the entire Maricopa County. Maricopa County is now restricting open burning in Area A with some time restraints and some seasonal restraints per amended Rule 314. Area A is still located in Maricopa County. Furthermore, Maricopa County is not totally banning the use of ACDs but rather restricting the purpose of their use and the time of their use.

**Comment #3:** Section 211. Within the list of prohibited materials, what is meant by "sensitive or classified wastes"? What is meant by "green plants"? Brush and trees would fall into this prohibition of burning green plants.

**Response #3:** We will remove the term "sensitive or classified waste" and the term "green plants." The term "sensitive or classified waste" was a term used in the first Rule 314 and carried through to subsequent rulemakings. After a search for the terms and their meaning and origin, we decided to strike the term from the rulemaking package. The inclusion of the term "green plants" in Rule 314's definition of prohibited fuels, Section 211, was done in order to coincide with the "prohibited fuels" list in Maricopa County's Residential Woodburning Restriction Ordinance which was revised in 1999.

This in turn was done in order to ensure that only dried materials are burned since the wetter or greener the material, the more noxious the fumes that it gives off.

**Comment #4:** Section 302: Insert "both" after "call" in the second sentence.

**Response #4:** We have inserted the word "both" after the word "call" in the second sentence.

**Comment #5:** In Section 302.1d(1), there should be a definition of "high-temperature mechanical burner."

**Response #5:** A high-temperature mechanical burner is widely used in agriculture and is frequently called a weed burner or a propane burner.

**Comment #6:** Section 302.1.d (2): Suggest that "or safety" be added to the last clause.

**Response #6:** Maricopa County believes that the phrase "necessary to thwart or prevent a hazard that cannot be properly managed by any other means" addresses the safety issue in this subsection and therefore does not need to be repeated at the end of the sentence.

**Comment #7:** Section 302.1d(4): Suggest that "by county representatives" be added after "conducted" in last sentence.

**Response #7:** We have added the term "by the Control Officer."

**Comment #8:** The paragraph immediately proceeding 302.2 appears not to have a paragraph number.

**Response #8:** The subsection is numbered "e" but there is a spacing problem and is difficult to see the "e". It will be corrected.

**Comment #9:** One commenter asked two questions about locations: in Section 302.2 b.1., what is the scope of the "geographical location"? Also, the phrase in Section 406.1, "contiguous to the location", is confusing.

**Response #9:** The geographic location would be the fixed place where the source operates and generates regulated air pollutants under common control. In Rule 100 (General Provisions and Definitions), Section 200.101 there is a definition of the term "source" which is defined as a building, structure, facility or installation. Section 200.26 of Rule 100 further defines a building, structure, facility or installation as one whose pollutant-emitting equipment and activities belong to the same industrial grouping and are located on one or more contiguous or adjacent properties and are under the control of the same person or persons under common control. Contiguous refers to the same source, same site. In the context of Subsection 406.1, contiguous means on the same site and under the same source or owner/operator where there is common control.

**Comment #10:** Section 304: Suggest "operations", the owner/operator "be inserted before "shall" and "submit" be inserted after "and" and "for" be inserted after "Plan."

**Response #10:** This was an error and will be corrected in this final version of the rule.

**Comment #11:** Sections 402.2 and 406.4: What is the fire department validation process?

**Response #11:** A fire department validation process would be any procedures that a person must follow to obtain approval from the appropriate fire department having jurisdiction over the property where the open fire will be ignited. The onus of responsibility is on the person conducting the fire to follow any fire department procedures that may be required before performance of a burn. This may include submission of the County Burn Permit to the local fire department for validation dependent upon the local fire department's procedures.

**Comment #12:** Section 405: Suggest that another term be added to this list. Highway and Roadside maintenance. 1 year from date of issuance. [sic]

**Response #12:** Thank you for your input. At this point in the rulemaking process (proposed and final rulemaking notices), it is too late to add this provision to the rule because this change would involve opening up the dockets for Rule 200 and 280 also. The rulemaking process for Rule 314 started in 2007. Had this comment been made earlier in the rulemaking process (the docket was opened on July 20, 2007), the change would most likely have been made by the County. The County will keep this comment in mind and consider it for the next time it reopens Rule 314.

**Comment #13:** Appendix Section A.7: This distance requirement is confusing. The air curtain destructor is composed of a steel frame, refractory line firebox and an air blower and plenum. A reading of this language could restrict any one distance to be not more than 10 feet in length, potentially limiting the operation a newer larger perhaps more efficient unit. Is this MCAQD's intention here?

**Response #13:** We have removed this requirement.

**Comment #14:** Section F: Suggest the hours of operation be shifted earlier into the day: with the April to September timeframes be 5am to 4pm and the October–March timeframes 8am to 4pm [*sic*]. This would operations to be conducted comfortable times of day and generally in times of daylight [*sic*]. Suggest the last sentence be stricken, given a list of prohibited material was identified earlier in this draft rule.

**Response #14:** While 5 a.m. may be cooler, some morning sun is still necessary in order to lift the inversion and to allow for atmospheric dispersion of the pollutants generated by the fire. Atmospheric dispersion is critical in cooler weather when the inversions become more severe.

**Comment #15:** One commenter stated that the omission of the word "construction" for air curtain destructors in section 302.2 is a drastic change in the rule and will essentially have a huge impact on their business and are sure of its inability to financially sustain the implications of this provision. I bought my first Air Curtain Burner in 2005, and do 90% of my work in Maricopa County. In April of 2007, I purchased a second Air Curtain Burner, and continue to do 90% of my business in Maricopa County. In *my* research I found article content where the San Dimas Technology and Development Center "investigated the use of air curtain destructors as an efficient, environmentally friendly, and technically viable means of disposing of slash, wood, and other burnable waste materials", and stated that, "ACD's should be considered an additional alternative to current fuel reduction methods and disposal of road clearing debris such as pile burning, chipping, landfill disposal, and prescribed fire".

Is the motive for this change to the rule an emissions issue? Is it possible that the emissions from one air curtain burner exceeds the engine emissions of *all* the diesel tractor trailers it would take to haul off this burnable material, as well as the engine emissions from the heavy equipment used to operate the landfill and process this same material?

Furthermore, "Rule 314 – Open Outdoor Fires", includes ACD's. Why? We propose that ACD's *don't* have the emissions that "open outdoor fires" do, and argue the point as to why ACD's even fall under the same rule. Information obtained on the airburners.com web site documents that "open burning averages 60% to 80% opacity". ACD's average 10% opacity...". "...S-Series machines have a 95 to 98 percent reduction rate, so 20,000 lbs. of wood waste will reduce to between 400 and 1,000 lbs. of ash", "The PM 2.5, is 36-39 times less with an ACD then with open burning. In an ACD, 1 ton of wood waste produces 1.1 lbs. of PM vs. 1 ton in open burning produces 39 lbs. of PM. Hence, the ACD is an emissions control device". I am enclosing some literature on ACD's including the emissions technical reports on the ACD from the manufacturer in hopes that the evidence of emissions from the ACD's favors the emissions of open outdoor fires as well as the alternatives to ACD's, and that with these aids, an educated, informed decision can be made whereas ACD's will removed from Rule 314 all together, all in hopes I can continue to operate my business in Maricopa County.

**Response #15:** Maricopa County is amending Rule 314 in response to the passage of Senate Bill 1552 by the Arizona Legislature in June of 2007. The County is also amending this rule due to the statutory requirements listed in the recently enacted Senate Bill 1552 and also in relation to commitments made in the Five Percent Plan for PM<sub>10</sub>. Since the area did not attain the PM<sub>10</sub> standard by December 31, 2006, the area must submit to the Environmental Protection Agency (EPA) a Five Percent Plan for PM<sub>10</sub> by December 31, 2007. The Five Percent Plan for PM<sub>10</sub> must demonstrate 5% reductions per year in emissions from the date of submission to the EPA. As part of this rulemaking authority, the County is prohibiting the use of air curtain destructors for purposes of clearance for construction purposes at any time.

We continue to consider burning in an air curtain destructor (ACD) a type of open burning even if properly operated. It is a type of controlled open burning. Arizona Revised Statutes § A.R.S. 49-501 (B) defines "open outdoor fires as used in this section, means any combustion of combustible material of any type outdoors, in the open where the products of combustion are not directed through a flue." A flue is also defined in this Rule 314 as "any duct or passage for air or combustion gases, such as a stack or chimney." The type of ACD that has been operating in Maricopa County does not vent to a flue or stack, but rather vents via an open top directly to the atmosphere. There are other options to using an air curtain destructor for land clearance such as chipping, mulching, composting and landfilling.

Maricopa County has received numerous complaints from the public whenever open burning of this sort in an air curtain destructor is taking place. Also the location of these units has continued to be a problem. One was located in very close proximity to a hospital.

Diesel trucks emitting pollutants while hauling the material to a landfill produce emissions that are spread over time and place, while the emissions from a single open burn are concentrated at **one** point. Also motor vehicles such as diesel trucks are addressed in other federal regulations such as clean fuel programs which help reduce emissions of pollutants via sulfur decreases and reformulated gasoline.

**Comment #16:** Our company is a leader in the design and manufacture of pyrotechnic devices and ordinance. In order to remain innovative, maintain quality and develop new products, we conduct destructive testing of energetic (e.g. explosive) materials to make sure that the energetic material/ devices will function as intended. The destructive testing as allowed under our Maricopa County Air Pollution Control District, Air Quality Permit Number 98-0691 and referenced in the proposed Rule 314, Section 303.2 (c) and (d) is conducted in part outdoors in an enclosed unit or in an open area. The PM 10 emissions from outdoor testing have averaged 0.66 pounds per month since January 2001. Emissions of PM 10 are calculated with the assumption that all solid products of combustion are particulate matter of less than 10 microns in size. The actual PM10 amount during combustion is a fraction of the total solids emitted and therefore the amount stated above is very conservative.

To date, we have conducted these destructive tests, which would be defined as open burning (e.g. not directed through a flue), only during non-restricted burn periods as required by Rule 314. This requirement at times, has prevented and/or delayed us from conducting destructive testing for customer demonstration purposes, as well as for our engineers from Moorpark, CA facility. These delays have incurred significant additional costs due to equipment rentals, lodging, travel, time and additional resources. This is due to the fact that there is no way to forecast when burn restrictions will be imposed so that appropriate arrangements can be made to minimize costs and delays. Many of our customers are out of state or global, and are only present at the Mesa AZ facility for limited periods of time. Although the burn restrictions are usually only in effect for a day or two at a time, these delays have also caused considerable impact on research and development timelines.

The proposed changes to Rule 314 further restricts the time that destructive testing can be performed ( i.e. cannot be performed on the weekends or holidays) and could incur additional costs and project delays for the same reasons, referenced above.

Given the insignificant PM 10 emissions from outdoor destructive testing activities referenced above, we ask for your consideration in revising the proposed rule to allow limited quantities of destructive testing defined as open burning without any restrictions to time ( i.e. able to perform on the weekends) and during Restricted Burn periods.

**Response #16:** The type of burning that you are describing is definitely an open burn. There is no threshold on open burning during stagnant conditions such as during Restricted-Burn days therefore the amount of pollutants that you are describing, while very low, still build up during stagnant conditions. The destructive testing of energetic materials also releases hazardous air pollutants. Furthermore, the number of Restricted-Burn days has not been more than 18 days in 2006 and 18 days in 2005. Therefore the County sees no valid reason to allow open burning of this type on Restricted-Burn days. Restricted -Burn days periods occur at certain times of the year more often than at others (October through February). Therefore planned burning, such as what your company does, can be scheduled ahead of time to try to mitigate the effects of the pollutants generated by the open burns.

The prohibition regarding burning on weekends and holidays for certain types of burning is based upon the fact that the capability of agencies to respond to any problems as a result of open burning is diminished on weekends and holidays. Many permits for years have prohibited certain types of burning on weekends and holidays.

**Comment #17:** We wish to comment regarding the rulemaking action on Rule 314 – Open Outdoor Fires. As it stands today this rule contains provisions in Sections 303.8 and 303.9 directly applicable to our business operations. We produce explosive-containing products for commercial and military applications and our products require stringent testing in accordance with the Department of Transportation and Department of Defense guidelines.

Testing is a crucial stage to our operations to determine that our products are of high quality and safe and reliable to operate. Until we complete testing we cannot deliver these products to military or commercial customers such as the U.S. Air Force, US Navy and US Marine Corps. Please understand that these customers have critical delivery schedules to maintain to field products for military forces in the US and overseas.

Before testing we consult with the Control Officer to determine air quality and whether a restricted burn period has been declared. We fully support the activities and the initiatives of the Air Quality Division in maintaining high air standards in the Phoenix Metropolitan area. Whenever we can shift test schedules from potential Pollution Advisory periods we absolutely do. However, when a restricted burn period is declared and critical testing is schedules, unless we specifically seek, and are granted, special permission to proceed with testing, test operations fail. Frequently our US Government customers such as the Air Force or Navy have traveled to Phoenix to witness these tests. Suspending tests causes great disruption to their schedules and programs as well.

In the past we have done our best to minimize the situations where special permissions was necessary. Maricopa County has been very accommodating in considering critical test situations such as those described herein. However, our concern

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is that the rule will be changed to eliminate the opportunity to request or be granted special permission for critical test situations.

We have shared technical data to demonstrate that tests of our products produce minute emission quantities. We seek to have Rule 314 remain as written to maintain the opportunity for special permission or more ideally, allow certain thresholds for critical testing on restricted burn days provided particulates or emissions fall below thresholds acceptable to the County. Thank you for the opportunity to share our comments and concerns.

**Response #17:** The type of burning that you are describing is definitely an open burn. There is no threshold on open burning during stagnant conditions such as during Restricted-Burn days therefore the amount of pollutants that you are describing, while very low, do not warrant open burning of any sort during stagnant conditions. The number of Restricted-Burn days has not been more than 18 days in 2006 and 18 days in 2005. Therefore the County sees no valid reason to allow open burning of this type on Restricted-Burn days.

**13. Any other matters prescribed by statute that are applicable to the specific department or to any specific rule or class of rules:**

Not applicable

**14. Incorporations by reference and their location in the rules:**

None

**15. Was this rule previously an emergency rule?**

No

**16. The full text of the rule follows:**

**REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 314**

**OPEN OUTDOOR FIRES AND INDOOR FIREPLACES AT COMMERCIAL AND INSTITUTIONAL ESTABLISHMENTS**

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**AIR CURTAIN DESTRUCTOR AND ~~BURN PIT~~ FIREBOX PROCEDURES**

Revised 07/13/88

Revised 12/19/01

Revised 04/20/05

Revised 03/12/08

**MARICOPA COUNTY  
AIR POLLUTION CONTROL REGULATIONS  
REGULATION III – CONTROL OF AIR CONTAMINANTS  
RULE 314**

**OPEN OUTDOOR FIRES AND INDOOR FIREPLACES AT COMMERCIAL  
AND INSTITUTIONAL ESTABLISHMENTS**

**SECTION 100 – GENERAL**

- 101 PURPOSE:** To limit the emissions of air contaminants produced from open burning and from indoor fireplaces at commercial and institutional establishments.
- 102 APPLICABILITY:** Rule 314 is applicable to any open outdoor fire and burning in indoor fireplaces at commercial and institutional establishments that is conducted within Maricopa County.

**SECTION 200 – DEFINITIONS:** See Rule 100 (General Provisions and Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

- 201 AIR CURTAIN DESTRUCTOR** – A device designed to form a curtain of air over a ~~pit~~ firebox in which ~~combustion-burning~~ occurs that aids in more complete combustion through increases in turbulence and combustion time. Above ground air curtain destructors are the only type of air curtain destructor that are allowed in Maricopa County.
- 202 AREA A** – As defined in Arizona Revised Statutes (A.R.S.) § 49-541(1), the area in Maricopa County delineated as follows:
  - Township 8 North, Range 2 East and Range 3 East
  - Township 7 North, Range 2 West through Range 5 East
  - Township 6 North, Range 5 West through Range 6 East
  - Township 5 North, Range 5 West through Range 7 East
  - Township 4 North, Range 5 West through Range 8 East
  - Township 3 North, Range 5 West through Range 8 East
  - Township 2 North, Range 5 West through Range 8 East
  - Township 1 North, Range 5 West through Range 7 East
  - Township 1 South, Range 5 West through Range 7 East
  - Township 2 South, Range 5 West through Range 7 East
  - Township 3 South, Range 5 West through Range 1 East
  - Township 4 South, Range 5 West through Range 1 East
- 202203 DANGEROUS MATERIAL** – Any substance or combination of substances that is capable of causing bodily harm or property loss unless neutralized, consumed, or otherwise disposed of in a controlled and safe manner.
- 203204 DITCHBANK** – A lateral area not to exceed two and one half feet on either side of a ditch.

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- 204205 EMISSION REDUCTION TECHNIQUES (ERTs)** – Methods for controlling emissions from outdoor fires to minimize the amount of emissions output per unit of area burned. Types of ERTS include minimizing the material to be burned, preventing fire from spreading by lining the area and applying fire retardant foam or water, allowing the material to dry before burning, extinguishing the smoldering burns, burning in piles, and burning in the opposite direction of the wind.
- 205206 FENCE ROW** – A lateral area not to exceed two and one half feet on either side of the centerline of a fence.
- 207 FIREBOX** – The chamber or compartment inside of an air curtain destructor wherein materials are burned.
- 206208 FLUE** – Any duct or passage for air or combustion gases, such as a stack or chimney.
- 207209 OPEN OUTDOOR FIRE OR OPEN BURNING** – Any combustion of any type of material outdoors, where the products of combustion are not directed through a flue. Open outdoor fires include agricultural, residential and prescribed and construction burning. Purposes for fires can include prevention of a fire hazard, instruction in the methods of fighting fires, watershed rehabilitation, disease and pest prevention.
- 208210 ORCHARD HEATERS** – A device which helps prevent frost damage to fruit trees by heating. An orchard heater consists of a pipeline heater system operated from a central control from which fuel is distributed by a piping system from a centrally located tank.
- 211 PROHIBITED MATERIALS** – Non-paper garbage from the processing, storage, service or consumption of food; books, magazines, fiberboard, packaging, rags, fabrics, office records, chemically treated or soaked wood; lead-painted wood; linoleum flooring, and composite counter tops; tires; animal wastes and carcasses, coal, liquid or gelatinous hydrocarbons tar, explosives or ammunition; oleanders, leaves, grass clippings, refuse; asphalt shingles or asphalt; tar paper; plastic and rubber products, including bottles for household chemicals; plastic grocery and retail bags; waste petroleum products, such as waste crankcase oil, transmission oil, and oil filters; transformer oils; asbestos; batteries; anti-freeze; aerosol spray cans; electrical wire insulation; thermal insulation; polyester products; hazardous waste products such as paints, pesticides, cleaners and solvents, stains and varnishes, and other flammable liquids; plastic pesticide bags and containers; and hazardous material containers including those that contained lead, cadmium, mercury and arsenic compounds.
- 209212 PUBLIC OFFICER** – Any elected or appointed officer of a public agency established by charter, ordinance, resolution, state constitution or statute, but excluding members of the legislature.
- 210213 RESTRICTED-BURN PERIOD** – A condition declared by the Control Officer whenever meteorological conditions are conducive to an accumulation of carbon monoxide (CO), ozone, and/or particulate matter in exceedance of the standards or when air quality reaches other limits established by the Control Officer or when there is increased fire danger.
- 214 WOOD-BURNING CHIMINEAS** – Chimineas are burning devices made from clay, aluminum, and steel and are used for warmth and aesthetics outside in yards and patios. Chimineas are designed to burn solid fuels.

**SECTION 300 – STANDARDS**

- 301 PROHIBITION – OPEN OUTDOOR FIRES:** It shall be unlawful for any person to ignite, cause or permit to be ignited, allow, maintain any open outdoor fire within the limits of Maricopa County, except as provided in Sections 302, ~~this rule and in Section 303, 304, 305 and in the Appendix of this rule.~~
- 302 BURN PERMIT:** ~~A person shall first obtain a Burn Permit from the Control Officer before igniting, causing or permitting to be ignited, allowing, or maintaining the open outdoor fires described in Sections 302.1 through 302.8 of this rule. Before a person to whom a Burn Permit has been issued begins burning, such person shall call, for permission to burn, the fire department having jurisdiction and the Control Officer, who must base his decision to approve or deny permission to burn on National Weather Service forecasts or other meteorological analyses. If a person has obtained a Title V Permit, a Non Title V Permit, or a General Permit under Regulation II (Permits And Fees) of these rules that includes condition(s) regarding open outdoor fires, then such person shall not be required to obtain a Burn Permit from the Control Officer. See Section 402 of this rule for requirements regarding Burn Permit applications and see Section 403 of this rule for requirements regarding Burn Permit conditions.~~
- 302 OPEN OUTDOOR FIRES REQUIRED TO OBTAIN A BURN PERMIT:** The types of fires described in Subsections 302.1 and 302.2 of this rule require a burn permit that is obtained from the Control Officer prior to initiating the burn. Even after the Control Officer issues the burn permit, the person conducting the fire shall call both the fire department and the Control Officer to obtain permission to burn for each day. The Control Officer shall base his decision to approve or deny permission to burn on National Weather Service forecasts or other meteorological analyses that are indicative of a Restricted-Burn Period. See Section 402 of this rule for additional requirements regarding burn permits.
- 302.1 Fires Prohibited During Restricted-Burn Periods in Maricopa County, But Allowed From May 1 thru September 30 Each Year in Area A:**

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- 302.1** a. Open outdoor fires that are declared necessary by the County Agricultural Agent, when such fires have been determined as essential for the purposes of disease and/or pest prevention and certified by actual investigations by the County Agricultural Agent.
- 302.2** b. Open outdoor fires for the control of weeds for the prevention of fire hazards, when such fires are declared necessary by a public officer in the performance of his official duties.
- 302.3** c. Open outdoor fires for fire-fighting training and fire-fighting training areas and structures. See Section ~~303.10~~ 303.2(b) of this rule for an exemption to this requirement.
- 302.4** d. Open outdoor fires for the burning of agricultural ditchbanks and fence rows where other reasonable mechanical, chemical, or other methods of removal are not available. In addition:
- ~~a.~~ (1) A high-temperature mechanical burner must be used to burn ditchbanks, canal laterals, and/or fence rows.
- ~~b.~~ (2) Burning ditchbanks and/or fence rows is not allowed during a restricted-burn period from October 1 through February 29, unless such fires are required in the performance of an official duty of any public office, or such fires are necessary to thwart or prevent a hazard that cannot be properly managed by any other means, or are necessary for the protection of public health.
- ~~c.~~ (3) An on-site inspection by the Control Officer must be conducted to verify that only vegetative materials will be burned.
- ~~d.~~ (4) After an initial on-site inspection by the Control Officer has been completed, a Burn Permit may be issued for the same location(s) without having to conduct additional initial on-site inspections. However, periodic, unscheduled, on-site inspections may be conducted by the Control Officer on days when such burning has been authorized by the Burn Permit.
- 302.7** e. Open outdoor fires declared necessary by the Federal government or any of its departments, agencies, or agents, or the state or any of its agencies, departments, or subdivisions for the purpose of watershed rehabilitation or control through vegetative manipulation.

**302.2** **Fires Prohibited During Restricted-Burn Periods in Maricopa County and Also Prohibited From May 1 to September 30 Each Year in Area A:**

- 302.5** a. Open outdoor fires for the destruction of tumbleweeds for the prevention of fire hazards in cases where other reasonable methods are not available.
- ~~a.~~ (1) Tumbleweeds must be cut, piled, and dried before burning.
- ~~b.~~ (2) A high-temperature mechanical burner may be used to burn un-dried tumbleweeds in situations where it is not feasible to allow natural drying.
- ~~c.~~ (3) A high-temperature mechanical burner must be used to burn tumbleweeds growing along canal laterals and fence rows.
- b. Open outdoor fires for the burning of indigenous scrub vegetation cleared for the purpose of ~~construction or~~ agricultural operations in non-urban areas of low population where other reasonable methods are not available.
- ~~a.~~ (1) The Control Officer shall issue such Burn Permit only once per geographical location.
- ~~c.~~ (2) An on-site inspection must be conducted to determine removal of all other materials (e.g. wood, rubber, tires, dirt and metal) before the issuance of the Burn Permit.

**303** ~~**EXEMPTIONS:** A person shall not be required to obtain a Burn Permit in order to conduct open outdoor fires described in Sections 303.1 through 303.11 of this rule.~~

**303** **OPEN OUTDOOR FIRES NOT REQUIRED TO OBTAIN A BURN PERMIT:** The person conducting any type of fire listed in Section 303 of this rule does not need to obtain a burn permit. However, the person conducting the fire may be required to contact the Control Officer for permission to burn prior to igniting the fire when specified below in Subsections 303.1 through 303.3.

~~**303.1** Domestic cooking for immediate human consumption.~~

~~**303.2** Warmth for human beings.~~

~~**303.3** Recreational purposes, where the combustible material is clean, dry wood, or charcoal.~~

~~**303.4** Branding animals.~~

~~**303.10** Fire fighting training areas and training structures.~~

- ~~a.~~ This exemption applies only if the sole source of flame is a burner fueled by either liquefied petroleum gas or natural gas, with a British Thermal Unit (BTU) input per hour rating of less than 2,000,000 BTUs.
- ~~b.~~ Before a person conducts an open outdoor fire for fire fighting training areas and training structures, such person shall call the Control Officer to determine if a restricted burn period has been declared and obtain permission to burn.

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**303.1 Fires Allowed At Any Time of the Year in Maricopa County or Area A:**

- a.** Cooking for immediate human consumption.
- b.** Orchard heaters for frost protection in farming or nursery operations.
- c.** Proper disposal of flags under 4 United States Code 8.
- d.** The display of fireworks for recreational purposes or pyrotechnics for musical or cinematic/theatrical functions.

**303.2 Fires Prohibited During Restricted-Burn Periods in Maricopa County:** The person conducting any type of fire listed in Subsection 303.2 of this rule shall first call the County Air Quality Updates Hotline to hear the recorded message or check local government web sites to determine whether a Restricted-Burn Period has been declared each day. If that is the case, then open outdoor burning is prohibited.

- a.** Fire extinguisher training. This exemption from needing a burn permit applies only when the training is limited to using a small amount of flammable liquid and a small container (i.e. a wastepaper basket or a flat pan).
- b.** Fire-fighting training, training areas and training structures are exempt from needing a permit if the sole source of flame is a burner fueled by either liquefied petroleum gas or natural gas, with a British Thermal Unit (BTU) input per hour rating of less than 2,000,000 BTUs.
- c.** Testing potentially explosive-containing, flammable, or combustible products (e.g., automotive airbags, rocket motors, gas generators, and vehicular assemblies) in accordance with Department of Transportation (DOT) or Department of Defense guidelines. This exemption from needing a burn permit refers to testing of hazard classification, packaging performance, propagation, and/or mass fire, but only when testing area is controlled, is relatively small, and when testing is not considered to be nor is associated with the disposal of dangerous material.
- d.** Testing potentially explosive-containing products for commercial, military, and law enforcement uses. This exemption from needing a burn permit applies only when the testing is controlled, relatively small and not considered to be nor is associated with the disposal of dangerous material.
- e.** Disposal of dangerous material must be conducted in compliance with the Arizona Department of Environmental Quality's (ADEQ's) regulations.

**303.3 Fires Prohibited During Restricted-Burn Periods in Maricopa County and Also Prohibited From May 1 Through September 30 Each Year in Area A:** The person conducting any type of fire listed in Subsection 303.3 of this rule shall first call the County Air Quality Updates Hotline to hear the recorded message or check local government web sites to determine whether a Restricted-Burn Period has been declared. If that is the case, then open outdoor burning is prohibited.

- a.** Warmth for human beings.
- b.** Recreational purposes.
- c.** Wood-burning chimineas and outdoor pits.
- d.** Branding of animals.

**304 OPEN OUTDOOR FIRES IN AN AIR CURTAIN DESTRUCTOR:** Prior to conducting an open outdoor fire in an air curtain destructor shall obtain a Title V permit form ADEQ and a site specific Burn Plan approved by the Control Officer. See the Appendix to Rule 314 for further requirements for the use of air curtain destructors. See Section 406 of this rule for Burn Plan Applications and Conditions.

**305 ADDITIONAL REQUIREMENTS FOR OPEN OUTDOOR FIRES ALLOWED PER SECTIONS 302, 303, AND 304:**

**305.1** Prohibited materials cannot be burned in open outdoor fires except as provided in Subsections 303.2(a), 303.2(b), 303.2(c), 303.2(d) and 303.2(e).

**305.2** Open outdoor fires cannot be conducted before the hours of 10 a.m. and after 5 p.m. from October 1 to March 31 and before the hour of 6 a.m. and after 6 p.m. from April 1 to September 30 except as provided in Subsections 302.1(c), 303.2(b), and 303.3.

**305.3** Open outdoor fires cannot be conducted during any weekends or holidays except as provided in subsections 302.1(c), 303.1, 303.2(b), and 303.3.

**305.4** Fire extinguishing equipment shall be available at all times during open outdoor fires.

**305.5** An attendant shall be present at all times during open outdoor fires for the duration of the burn.

**305.6** Open outdoor fires shall never be initiated with items that cause the production of black smoke.

**305.7** An air curtain destructor must be used for the burning of certain vegetative materials greater than 6 inches in diameter and an on-site inspection must be conducted before burning.

**306 PROHIBITION – BURNING IN INDOOR FIREPLACES:** Burning in indoor fireplaces that use any fuels other than gaseous fuels, including gas logs, at commercial and institutional establishments is prohibited during Restricted-Burn Periods in Maricopa County. The owner or operator of a commercial or institutional fireplace shall

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first call the County Air Quality Updates Hotline to hear the recorded message or check local government web sites to determine whether a Restricted-Burn Period has been declared. If that is the case, then burning is prohibited except if using gaseous fuels.

**SECTION 400 – ADMINISTRATIVE REQUIREMENTS FOR BURN PERMITS AND BURN PLANS:**

- 401 FEES REQUIRED:** A fee shall be charged for a Burn Permit or the approval of each site specific Air Curtain Destructor Burn Plan as set forth in Rule 280 (Fees) of these rules.
- 402 BURN PERMIT APPLICATION:** A person shall file with the Control Officer, on a form prescribed by the Control Officer, a Burn Permit application and the complete application fee as described in Rule 280 (Fees) of these rules. The Control Officer shall act on a Burn Permit application and shall notify the applicant within 14 calendar days of the filing of the completed application.
- 402.1** A separate Burn Permit application is required for each burn site location not contiguous to the location on the original Burn Permit application.
- 402.2** The Control Officer shall conduct an on-site inspection before issuing the Burn Permit.
- 402.3** The issuance of a Burn Permit does not relieve the permittee from any of the requirements of a fire department having jurisdiction, including but not limited to having the Burn Permit validated by such fire department.
- 402.4** ~~Maricopa County shall not issue permits for its own burning activities. Authority for issuance of permits to the County shall be retained by Arizona Department of Environmental Quality. Permission given by a Public Officer for setting any fire given by a public officer in the performance of official duty under Sections 300 through 304 of this rule shall be given in writing and a copy of the written permission shall be transmitted immediately to the Control Officer. The setting of any such fire shall be conducted in a manner and at such times as approved by the Control Officer, unless doing so would defeat the purpose of this exemption.~~
- 402.5** If a person has obtained a Title V Permit, a Non-Title V Permit, or a General Permit under Regulation II (Permits And Fees) of these rules that includes condition(s) regarding open outdoor fires, then such person shall not be required to obtain a separate Burn Permit from the Control Officer. An owner or operator of an air curtain destructor that has obtained a Title V permit from the ADEQ shall submit a burn plan for each burn site location to the Control Officer as described in the Appendix to Rule 314.
- 403 BURN PERMIT CONDITIONS:** The Control Officer may impose any permit conditions that are necessary to ensure compliance with Federal laws, State laws, or these rules. Burn Permit condition(s) may include, but are not limited to, burning hours, notification of intent to burn, and Burn Permit posting.
- 404 BURN PERMIT DENIAL:** The Control Officer shall deny a Burn Permit application if the material or operations do not meet the criteria described in this rule.
- 405 BURN PERMIT TERMS:** A Burn Permit shall be issued for the following terms:
- |                                   |                               |
|-----------------------------------|-------------------------------|
| Disease/Pest Prevention           | 30 days from date of issuance |
| Fire Hazard                       | 30 days from date of issuance |
| Tumbleweeds                       | 30 days from date of issuance |
| Ditchbank/Fence Row               | 1 year from date of issuance  |
| Fire-fighting Training/Structures | 1 year from date of issuance  |
- 406 BURN PLAN APPLICATION AND CONDITIONS:** In order to use an air curtain destructor, a person shall file with the Control Officer, on a form prescribed by the Control Officer, a Burn Plan application and the complete application fee as described in Rule 280 (Fees) of these rules. The Control Officer shall act on a Burn Plan application and shall notify the applicant within 14 calendar days of the filing of the completed application.
- ~~**406.1-1** A separate, site-specific Burn Plan application is required for each burn site location not contiguous to the location.~~
- ~~**406.2-2** A Burn Plan Application shall be site-specific and shall list the following, at a minimum:~~
- ~~**a.** Notification of intent to burn;~~
  - ~~**b.** The anticipated dates and hours of the burn;~~
  - ~~**c.** The type and quantity of fuel that will be used;~~
  - ~~**d.** The type of material burned;~~
  - ~~**e.** The legal location, to the nearest township, range and section or latitude and longitude, to the nearest degree minute, street address, or parcel number;~~
  - ~~**f.** The Burn Plan posting; and~~
  - ~~**g.** The listing of the air curtain destructor's requirements as outlined in Section A of the Appendix to this rule.~~

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- 406.3 The Control Officer shall conduct an on-site inspection before approving the Burn Plan Application.
- 406.4 The issuance of a Burn Plan does not relieve the permittee from any of the requirements of a fire department having jurisdiction, including but not limited to having the Burn Plan validated by such fire department.
- 406.5 The Control Officer may impose any conditions that are necessary to ensure compliance with Federal laws, State laws, or these rules.
- 406.6 The Control Officer shall deny a Burn Plan application if the material or operations do not meet the criteria described in this rule.

**500 MONITORING AND RECORDS**

**501 RECORDKEEPING AND REPORTING:**

- 501.1** The following information shall be provided to the Control Officer for each time that open burning occurs for persons and operations subject to Sections 302, 304 and Subsections 303.2 (c), (d) and (e) ~~Subsections 305.2 (b), 305.2 (e), and 305.2 (d), 303.6, 303.8, 303.9, and 303.10.~~ This information shall be provided on a daily basis either by writing, fax, or electronically and shall include:
  - a. The date of the burn; and
  - b. The type and quantity of fuel burned for each date open outdoor burning occurs; and
  - c. The fire type such as a pile or windrow for each date that open outdoor burning occurs; and
  - d. The legal location, to the nearest township, range and section, or latitude and longitude, to the nearest degree minute, street address, or parcel number.

**502 RECORDS RETENTION:**

- 502.1** Maricopa County shall retain permits issued for open burning available for inspection by the ADEQ for five years.
- 502.2** For each permit issued, Maricopa County shall have a means of contacting the person authorized by the permit to set an open fire, if an order to extinguish open burning is issued by either the County or ADEQ. Therefore the permit application must contain the name of a contact person and shall list a means of contacting that person.
- ~~**502.3** Maricopa County shall hold or attend an annual public meeting for interested parties to review operations of the open outdoor fire program and discuss emission reduction techniques.~~
- ~~**502.4** Maricopa County shall annually submit to ADEQ a record of daily burn activity by May 15 of each calendar year.~~

**503 PROGRAM REVIEW**

- 503.1** Maricopa County shall hold or attend a public meeting annually for interested parties to review operations of the open outdoor fire program and discuss emission reduction techniques.
- 503.2** Maricopa County shall annually submit to the ADEQ a record of daily burn activity by May 15 of each calendar year.

**APPENDIX TO RULE 314**

**AIR CURTAIN DESTRUCTOR AND ~~BURN PIT FIREBOX~~ PROCEDURES**

**A. ~~Burn Pit Requirements~~ Air Curtain Destructor Requirements:**

The following must be complied with prior to approval of ~~a pit~~ an air curtain destructor by the Control Officer ~~for burning purposes:~~

- ~~1. The pit must not exceed the length of the plenum.~~ The length of the firebox must not exceed the length of the plenum.
- ~~2. The width of the pit must not exceed 8 feet.~~ The firebox shall be lined with refractory materials.
- ~~3. The depth of the pit must be a minimum of 15 feet.~~ The depth of the firebox shall be of such a distance to allow all burning material to be below the curtain of air created by the air curtain destructor.
- ~~4. The maximum erosion width must not exceed 12 feet nor must the pit result in excessive emissions at any time due to erosion, regardless of the width.~~ The width of the firebox shall not extend beyond the length of the nozzle action.
- ~~5. The pit firebox must have 4 stable, vertical sides. such as, but not limited to, mineral, soil, metal curtain, and masonry.~~
- ~~6. When air curtain destructor locations are changed, an inspection of the newly located air curtain destructor must be made by the Control Officer prior to burning.~~
- ~~7. When pit locations are changed, an inspection of the newly located pit must be made by the field inspector prior to burning. An air curtain destructor shall never be located at one site for more than 6 consecutive~~

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months and shall follow the burn permit terms of Section 402 of this rule. A total of 6 burn permits maximum will be issued by the County for any one area or place.

**B. Equipment Set-Up:**

1. An owner or operator of an air curtain destructor shall use a firebox and not a pit or trench to conduct open outdoor burning.
2. The equipment must be positioned so as to allow the blower's airflow to strike at a downward angle no less than 24 inches below the opposite rim of the ~~pit~~ firebox.
3. There shall be at least 1,000 feet between any two air curtain destructors.
4. An air curtain destructor shall be located at least 500 feet from any residence or building structure.
5. An air curtain destructor shall be located at least 500 feet from any pipeline or fuel storage area.
6. An air curtain destructor shall be located at least 250 feet from any power lines.
7. Material that is not being worked or is being stockpiled to be burned at a later date by using an air curtain destructor shall be kept at least 75 feet from the air curtain destructor while the burn is taking place.

**C. Operation of Blower:**

1. The proper blower speed must be maintained ~~so as to meet emissions standards~~ according to manufacturer's specifications.
2. The blower must be operating when and as long as any material in the ~~pit~~ firebox is burning.

**D. Loading of the Pit Firebox:**

1. When loading (feeding) the ~~pit~~ firebox, the material must not extend above the air curtain (blower airflow).
2. The loading of materials into the ~~pit~~ firebox must be discontinued at a minimum of 2 hours prior to the end of the designated burning hours. The blower must continue to operate until the end of the burning hours or until combustion is completed.
3. Adequate measures must be taken to assure that no emissions emanate from materials left in the ~~pit~~ firebox (i.e., overnight) (i.e., when combustion is completed). All materials left in the ~~pit~~ firebox must be extinguished with water or covered over with a minimum of 1 foot of mineral soil.

**E. ~~Pit~~ Firebox Clean-Out:**

All materials removed from the ~~pit~~ firebox must be completely extinguished and all reasonable precautions taken to control emissions.

**F. ~~Permit Approval Requirements:~~ Burning Hours for Air Curtain Destructors:**

The following burning hours apply:

April – September: 6 am – 6 pm

October – March: 8~~10~~ am – 5 pm

While complying with the above schedule, the permittee must also obtain permission from the Control Officer on each day of burning. Burning using an air curtain destructor is not authorized on weekends nor on holidays. ~~Rubber and plastic type material must not be used as ignition fuel.~~ Prohibited materials shall never be burned in an air curtain destructor.

**NOTICE OF FINAL RULEMAKING**

**MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS**

**RULE 316 – NONMETALLIC MINERAL PROCESSING**

[M08-195]

**PREAMBLE**

**1. Sections Affected**

Rule 316

**Rulemaking Action**

Amend

**2. Statutory authority for the rulemaking:**

Authorizing statutes: A.R.S. §§ 49-474, 49-479, and 49-480

Implementing statute: A.R.S. § 49-112

**3. The effective date of the rule:**

Date of Adoption: March 12, 2008

**4. List of all previous notices appearing in the Register addressing the rulemaking:**

Notice of Rulemaking Docket Opening: 13 A.A.R. 2175, June 22, 2007

Notice of Proposed Rulemaking: 13 A.A.R. 3888, November 9, 2007

**5. Name and address of department personnel with whom persons may communicate regarding the rulemaking:**

Name: Johanna M. Kuspert or Jo Crumbaker  
Maricopa County Air Quality Department

Address: 1001 N. Central Ave., Suite 595  
Phoenix, AZ 85004

Telephone: (602) 506-6710 or (602) 506-6705

Fax: (602) 506-6179

E-mail: jkuspert@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

**6. An explanation of the rule, including the department's reasons for initiating the rule:**

Rule 316 limits the emission of particulate matter (PM<sub>10</sub>) into the ambient air from any commercial and/or industrial nonmetallic mineral processing plant and/or rock product plant. PM<sub>10</sub> emissions are generated from commercial and/or industrial nonmetallic mineral processing plants and/or rock product plants during the mining, processing, and handling (i.e., transporting, loading/unloading, conveying, crushing, screening, mixing, and storing) of nonmetallic minerals. Unpaved roads and trackout are other sources of PM<sub>10</sub> emissions from such operations.

Maricopa County adopted Rule 316 in July 1993 and revised Rule 316 in April 1999, in order to make the existing standards consistent with revisions to the Standards of Performance for Nonmetallic Mineral Processing Plants (40 Code of Federal Regulations (CFR) Part 60 Subpart OOO). In July 2002, the Environmental Protection Agency (EPA) granted Arizona's request to extend the Clean Air Act deadline for attainment of the annual and 24-hour PM<sub>10</sub> standards from 2001 to 2006. With this deadline extension, Arizona was required to submit to the EPA a revised PM<sub>10</sub> State Implementation Plan (SIP), which was to include control strategies that meet the Best Available Control Measures (BACM) test and the Most Stringent Measures (MSM) test for significant sources and source categories. Maricopa County revised Rule 316 in June 2005 to address BACM and MSM.

**PM<sub>10</sub> Nonattainment Status History:**

In accordance with 1990 Clean Air Act Amendments, the Maricopa County nonattainment area was initially classified as "moderate" for PM<sub>10</sub> pollution. As a moderate nonattainment area, Maricopa County was required to submit to the EPA a moderate PM<sub>10</sub> nonattainment area plan and to show attainment of the PM<sub>10</sub> national ambient air quality standards (NAAQS) by December 31, 1994. Moderate PM<sub>10</sub> nonattainment area plans were submitted to the EPA in 1991 and 1993.

The Maricopa County moderate PM<sub>10</sub> nonattainment area, upon the EPA's findings, failed to attain the NAAQS by December 31, 1994. Consequently, on May 10, 1996, the EPA reclassified Maricopa County as a serious PM<sub>10</sub> nonattainment area. Maricopa County was then required to submit a serious PM<sub>10</sub> nonattainment area plan, which had to include best available control measures (BACM), measures designed to achieve the maximum degree of emissions reduction for PM<sub>10</sub> sources. Maricopa County was then required to show attainment of the PM<sub>10</sub> NAAQS by December 21, 2001.

Emission inventories and air quality modeling analysis of existing control measures subsequently showed that attainment could not be reached by December 21, 2001. A shortfall of a 16.4% reduction in PM<sub>10</sub> concentration was identified. The CAA allows states to request an extension of this attainment date for up to five years, providing the state submits an attainment plan that includes the most stringent measures (MSM) that are included in any state's plan or achieved in practice by any State, and can be feasibly implemented in the area. Consequently, a rigorous planning effort was conducted to develop 77 additional control measures. The serious PM<sub>10</sub> nonattainment area plan was submitted to the EPA on July 9, 1999. The EPA approved the revised serious PM<sub>10</sub> nonattainment area plan in April 2002, contingent on the completion of three commitments by Maricopa County. The revisions to Rule 310 (adopted April 7, 2004) addressed the commitments.

As a result of litigation on the moderate PM<sub>10</sub> nonattainment area plan, the Arizona Department of Environmental Quality (ADEQ) prepared and submitted a Plan for Attainment of the 24-Hour PM<sub>10</sub> Standard—Maricopa County PM<sub>10</sub> Nonattainment Area in May 1997. EPA's partial disapproval triggered a federal implementation plan (FIP) obligation, which remains in place, with regard to the area's PM<sub>10</sub> moderate area plan. The obligation resulted from EPA's disapproval of those sections of the SIP addressing unpaved roads, unpaved shoulders, unpaved parking lots, vacant lots and agriculture. The EPA found that the SIP did not contain adequate measures to reduce the emissions from or the number of existing sources in these categories and therefore failed to implement reasonably available control measures.

Under the court ordered consent decree, the EPA finalized a FIP in July 1998 for the Maricopa County PM<sub>10</sub> nonattainment area that addresses those four categories of sources.

On July 2, 2002, the EPA found the controls proposed in the Arizona 24-hour Standard PM<sub>10</sub> SIP revision were inadequate to ensure the attainment of the PM<sub>10</sub> national ambient air quality standards (NAAQS) at the Salt River air quality monitoring sites. The finding of inadequacy included the State Implementation Plan's (SIPs) attainment and reasonable further progress (RFP) demonstrations for the 24-hour PM<sub>10</sub> standard at the Salt River monitoring sites and three other microscale sites in the Maricopa County PM<sub>10</sub> nonattainment area (Maryvale, Gilbert, and West Chandler).

Although the EPA had approved Arizona's 1997 SIP revision and additional required controls proposed by Maricopa County on August 4, 1997, EPA's Aerometric Information Retrieval System (AIRS) continued to show exceedances at the Maricopa County PM<sub>10</sub> nonattainment area Salt River site – recording expected exceedances in 1999, 2000, and through three quarters of 2001. Consequently, the EPA required Arizona to submit a SIP revision to identify and implement corrective PM<sub>10</sub> control provisions in the Salt River Study Area and for similar significant sources in the Maricopa County PM<sub>10</sub> nonattainment area.

Arizona's SIP revision was required to provide for attainment in the Salt River site no later than December 31, 2006, in accordance with CAA § 89(b)(1)(A) and 188(e), and was required to include control strategies that meet the best available control measures (BACM) test and the most stringent measures (MSM) test for significant sources and source categories.

The Final Revised PM<sub>10</sub> State Implementation Plan for the Salt River Area, published in August 2004, contained Arizona's revisions to the State Implementation Plan for the Maricopa County PM<sub>10</sub> serious nonattainment area and included the following State Implementation Plan requirements, as described by the EPA in its Federal Register Notice of Disapproval (67 FR 44369, July 2, 2002):

- A modeling demonstration showing that the level of emissions reductions from application of BACM-MSM for all significant sources of PM<sub>10</sub> will result in attainment of the 24-hour NAAQS by December 31, 2006, at the Salt River PM<sub>10</sub> monitoring site, in accordance with CAA § 89(b)(1)(A) and § 88(e).
- Commitments to implement best available control measures (BACM)-most stringent measures (MSM) for sources significantly contributing to exceedances of the 24-hour PM<sub>10</sub> standard in the Salt River area as expeditiously as possible (CAA § 89(b)(1)(B)) and a commitment that all BACM and MSM control measures adopted and applied to sources in the Salt River Study Area will be applied to all similar sources throughout the Maricopa County PM<sub>10</sub> serious nonattainment area.
- A demonstration that the plan constitutes Reasonable Further Progress (RFP) up to the attainment deadline of December 31, 2006.
- A demonstration that all the requirements of the federal Clean Air Act Amendments that pertain to serious PM<sub>10</sub> nonattainment areas are met, including CAA § 110(l), § 110(a)(2)(E)(i), and 40 CFR § 51.280 and § 1.111).

After having evaluated the 2002 PM<sub>10</sub> emissions data from the Maricopa County 2002 periodic PM<sub>10</sub> emissions inventory and after having developed a base year emissions inventory from an extensive field study, ADEQ reviewed rules and regulations from other jurisdictions across the United States and identified those requirements that were more stringent than requirements currently required by Arizona rules (i.e., best available control measures (BACM) and most stringent measures (MSM)). When competing or similar control measures or work practice standards were deemed BACM or MSM in various parts of the country, ADEQ was allowed some flexibility to determine which control measures to choose.

ADEQ did not make determinations upon whether or not the emissions from a single source or individual activities at a source were considered to be significant or not. According to the modeling analysis presented in the Proposed Revised PM<sub>10</sub> State Implementation Plan (SIP) for the Salt River Area Technical Support Document, a series of emissions sources were identified as being significant contributors to the overall nonattainment of the study area. While every facility, when considered independently of the sources surrounding it, should be capable of demonstrating compliance with State and County air quality standards, those sources, when considered collectively, contribute to the overall nonattainment of the study area.

**Explanation for Current Rulemaking Proposals:**

EPA has advised Maricopa County that Rule 316 has not included all Best Available Control Measures (BACM) and Most Stringent Measures (MSM) for nonmetallic mineral mining sources. The EPA noted that Maricopa County had not included a requirement that sources maintain a minimum moisture content on crushing and screening operations and monitor the moisture content for compliance citing Clark County, Nevada Section 34. Furthermore, since the region did

not attain the PM<sub>10</sub> standard by December 31, 2006, the region was required to submit to the EPA a Five Percent Plan for PM<sub>10</sub> by December 31, 2007. The Five Percent Plan for PM<sub>10</sub> was required to demonstrate 5% reductions per year in emissions from the date of submission to the EPA. The Maricopa County Air Quality Department (MCAQD) revised Rule 316 to correct section references – to link required control measures to applicable performance standards or test methods – to improve the rule’s clarity and regulatory uniformity among related rules in the Maricopa County Air Pollution Control Regulations, and to include a requirement that sources maintain a minimum moisture content on crushing and screening operations and monitor the moisture content for compliance. The MCAQD also revised Rule 316 to comply with commitments made in the Five Percent Plan for PM<sub>10</sub> and to be consistent with and implement new requirements adopted by the Arizona State Legislature in SB1552. SB1552 enacted new requirements for dust control coordinators, training, and dustproof paving for parking, maneuvering, ingress and egress areas.

The December 2007 Five Percent Plan for PM<sub>10</sub> relies significantly upon emission reductions from Rule 316 sources as part of the attainment demonstration for the Salt River area; an area that has the highest emissions density of PM<sub>10</sub> in the nonattainment area. Table 8-8 (p. 8-50) presents the modeling results for the low-wind design day (December 12, 2005) at the West 43rd Avenue monitor. On the design day, modeling indicated that industrial point and area sources (of which Rule 316 sources constitute the majority) contributed 6.41 µg/m<sup>3</sup> and 60.49 µg/m<sup>3</sup> respectively, out of a total of 233.2 µg/m<sup>3</sup>. A source category that contributes 5 µg/m<sup>3</sup> is considered to be a significant contributor to a nonattainment area’s exceedances. Furthermore, Table 8-8 relies upon a 47% reduction of PM<sub>10</sub> emissions from industrial point and area sources in order to demonstrate attainment by 2010. Additionally, the Five Percent Plan estimates that full implementation of all the control measures applicable to Rule 316 sources will result in PM<sub>10</sub> emission reductions of 453 tons per year by 2010. These reductions are essential to meeting the annual 5% reductions in total PM<sub>10</sub> emissions as required by the Five Percent Plan. The Five Percent Plan demonstrates that emission reductions from Rule 316 sources are necessary to show both attainment at the monitors and to meet the annual 5% emissions reductions targets.

Each control measure applicable to Rule 316 theoretically increases compliance rates, which results in decreased emissions. When combined, all of the control measures applicable to Rule 316 are predicted to achieve an 80% compliance rate by 2010. The base compliance rate begins at 54% per Appendix 2.2–Rule Effectiveness Study for Maricopa County Rules 310, 310.01, and 316 of the 2005 Periodic Emissions Inventory for PM<sub>10</sub> for the Maricopa County, Arizona Nonattainment Area dated May 2007. The base compliance rate increases by 26% in 2010 to achieve an 80% compliance rate. The MCAQD will conduct another formal rule effectiveness study in 2009 or 2010 to determine if the region achieved an 80% compliance rate for Rule 316.

For more than 10 years, Clark County has implemented a minimum moisture content requirement through a case-by-case analysis. Similarly, in Maricopa County, to implement this level of control for all sources regardless of site-specific conditions but without having to conduct a case-by-case analysis, the MCAQD has included in Rule 316 that maintaining a minimum soil moisture content of 4% represents an effective level of BACM/MMSM. The MCAQD has also provided for the submittal of a site-specific justification for an alternative minimum soil moisture content to be approved by the Control Officer and the Administrator. Examples of site-specific factors include the following: (1) if a process includes a fine mesh screen, mined products that contain significant silts or clays may blind the screen leading to downtime and added emissions from startup/shutdown and (2) an asphalt batch plant may demonstrate that more emissions are produced by the fuel burned to dry materials prior to batching than are reduced by increasing the moisture content to increase control efficiency. Rule 316 as adopted also provides that an owner/operator may submit documentation demonstrating that an alternative moisture testing protocol correlates with the reference test method and protocol or demonstrating that reducing the number of sampling points and/or reducing sampling frequency correlates with the protocol described in the rule.

**Section by Section Explanation of Changes:**

- Section 220: Deleted “but not later than 8 pm” in the first sentence and adds a second sentence. Second sentence reads: “If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.”
- Section 227: Added “or pit” and added “For the purpose of this definition, haul/access roads are not in permanent areas of a facility.”
- Section 235: Added “raw material storage and distribution.”
- Section 236: Changed “ASTM Method C136-01” to “ASTM Method C136-06” and deleted “of the Environmental Protection Agency (EPA).” Also, in the first sentence, deleted “which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more” and added “that has a total surface area of 150 square feet or more and that

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at any one point attains a height of three feet.” The intent is that the surface area of the storage pile is of concern – not the footprint of the storage pile.

- New Section 240: Added “Permanent Areas of a Facility – Areas that remain in-place for 180 days or more in 12 consecutive months. Permanent areas of a facility include the following areas: entrances, exits, parking areas, office areas, warehouse areas, maintenance areas (not including maintenance areas that are in the quarry or pit), concrete plant areas, asphaltic plant areas, and roads leading to and from such areas.”
- Re-numbered Section 261: Deleted “Unpaved internal roads are private unpaved roads within the facility’s property boundary.”
- Section 301: Changed heading “Nonmetallic Mineral Processing Plants – Process Emission Limitations and Controls” to “Crushing and Screening – Process Emission Limitations and Controls.” Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1: Deleted “of a nonmetallic mineral processing plant.”
- Section 301.1(a): Deleted “Such stack emissions shall be vented to a properly sized fabric filter baghouse.” Section 301.1(a) is addressed in Section 301.2(d). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1(d): Deleted “directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1, under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation is in Section 301 and would be a stack emission. Any type of stack is addressed by Sections 301, 302, and 303. Active system is in Sections 301, 302, and 303. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 301.1(e): Added “Opacity observations to determine compliance with this section of this rule shall be conducted in accordance with the techniques specified in Appendix C-Fugitive Dust Test Methods of these rules.”
- Section 301.2: Deleted “For crushing and screening facilities, the”, “of a nonmetallic mineral processing plant”, and “all of the following.” Added “The” and “described in Section 301.2(a), Section 301.2(b), and Section 301.2(c) of this rule or shall implement process controls described in Section 301.2(a) and Section 301.2(d) of this rule.”
- Section 301.2(b): Added “the points listed below for crushers, shaker screens, and material transfer points.”
- Section 301.2(c): As originally written, Section 301.2 required owners and operators of “crushing and screening facilities” to “implement” specified process controls, expressly requiring regulated facilities to “permanently mount watering systems” at certain material handling points. Although Section 301.2(b) expressly called for installation of watering systems, it said nothing about the manner in which the watering systems, once installed, were to be operated. Added “Operate watering systems (e.g., spray bars or an equivalent control) on the points listed in Section 301.2(b) of this rule for crushers, shaker screens, and material transfer points, excluding wet plants, to continuously maintain a 4% minimum moisture content. (1) The watering systems shall be maintained in good operating condition, as verified by daily inspections. (2) The owner and/or operator shall investigate and correct

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any problems before continuing and/or resuming operations. (3) The owner and/or operator shall conduct soil moisture tests as follows: (a) If the owner and/or operator is required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted twice daily in accordance with the test methods described in Section 502 of this rule. (b) If the owner and/or operator is not required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted daily in accordance with the test methods described in Section 502 of this rule. (c) If the owner and/or operator demonstrates that the 4% minimum moisture content is maintained for a minimum of four weeks, then soil moisture tests may be conducted weekly in accordance with the test methods described in Section 502 of this rule. (d) If the owner and/or operator fails to comply with the opacity limitations described in Section 301.1, Section 306.1, or Section 306.2 of this rule and/or if two consecutive soil moisture tests are below 4%, then the owner and/or operator shall conduct soil moisture tests in accordance with Section 301.2(c)(3)(a) or Section 301.2(c)(3)(b) of this rule, as applicable. (e) If the owner and/or operator of a facility complies with both of the following requirements, then the number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced: (i) A soil moisture test is conducted in accordance with the test methods described in Section 502 of this rule at the primary crusher, which indicates that at least a 5% minimum moisture content is maintained; and (ii) A demonstration that complies with Section 502.3(d) of this rule is submitted to and approved by the Control Officer and is complied with in accordance with Section 502.3(d) of this rule. (4) The owner and/or operator may request in a permit application, with explanation, an alternative plan that justifies a minimum moisture content other than 4% and that justifies conducting fewer soil moisture tests as are required. In the request, the owner and/or operator shall submit to the Control Officer documentation regarding a minimum moisture content other than 4%, including, but not limited to, economics, emissions rates, water availability, and technical feasibility. In addition, the owner and/or operator shall demonstrate that the proposed alternative compliance demonstration plan will be equivalent in determining compliance with the soil moisture content requirements. Prior approval from the Control Officer and the Administrator shall be received before implementing the plan. d. Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.”

Section 301.2(d): Added “Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.” A baghouse is needed with the grain loading standard to meet Section 301.1(a). This addition is intended to match Clark County’s Section 34 language regarding “enclose and exhaust the regulated process to properly sized baghouse”.

Section 302.1: Deleted “of an asphaltic concrete plant.”

Section 302.1(a): Deleted “over a 6-minute period” from Sections 302.1(a), Section 302.1(b), and Section 302.2. “Over a 6-minute period” is addressed in the test methods section.

Section 302.1(b): Deleted “over a 6-minute period” from Sections 302.1(a), Section 302.1(b), and Section 302.2. “Over a 6-minute period” is addressed in the test methods section.

Section 302.1(c): Deleted “From all cement, lime, and/or fly ash storage silo(s), fugitive dust emissions exceeding 20% opacity” and added “Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping.” Similar to Section 301.1(d) and Section 303.1(b). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 302.2: Deleted “of an asphaltic concrete plant shall implement all of the following process controls” and added “shall, from all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse.” Stack emissions are not fugitive emissions, but are under process fugitives. Process equipment has process fugitives. Loading a pile is under Section 306. Re-organized requirements based on equipment and discrete processes (e.g.,

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lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

- Section 302.2(a): Deleted “On all cement, lime, and/or fly-ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly-ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.” Section 302.2(a) is addressed in Section 303.2(a). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 302.2(b): Deleted “On existing cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(b) is addressed in Section 302.2 and the “5%” is addressed in Section 303.1(a). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 302.2(c): Deleted “On new cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(c) is addressed in Section 302.2 and the “5%” is addressed in Section 303.1(a). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 302.2(d): Deleted “From all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 302.2(d) is addressed in Section 302.2. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 303: Changed heading “Concrete Plants and/or Bagging Operations-Process Emission Limitations and Controls” to “Raw Material Storage and Distribution, Concrete Plants, and/or Bagging Operations-Process Emission Limitations and Controls.” Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 303.1: Deleted “of a concrete plant and/or bagging operation.”
- Section 303.1(a): Deleted “7%” and added “5%.” Discussion that led to the change: Particle size is an indicator of opacity – not a linear relationship, though. “Process Emission Limitations” should include opacity. “Controls” might not include opacity. Deleted Section 303.2(b), because it is covered in Section 303.1(a). Asphalt – already mixed – is not a “raw material”. Loading a silo can produce emissions. Silo should have “control” but might not. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an

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aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 303.1(b): Deleted “directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1, under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation is addressed in Section 301 and would be a stack emission. Any type of stack is addressed by Sections 301, 302, and 303. Active system is in Sections 301, 302, and 303. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 303.1(c): Deleted “Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.” Truck dumping is addressed in Section 307.1, under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation is addressed in Section 301 and would be a stack emission. Any type of stack is addressed by Sections 301, 302, and 303. Active system is in Sections 301, 302, and 303. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 303.2: Deleted “of a concrete plant and/or bagging operation.”

Section 303.2(b): Deleted “On existing cement, lime, and/or fly-ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6-minute period.” Section 303.2(b) is addressed in Section 302.2 and the “5%” is addressed in Section 303.1(a). Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

Section 305: Added “An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule. When selecting air pollution control equipment required by this rule, the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some air pollution control equipment may be more reasonable to implement than others. Regardless, any air pollution control equipment that is installed must achieve the applicable standard(s) required by this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator of a facility may submit a request to the Control Officer and the Administrator for the use of alternative air pollution control equipment. The request shall include the proposed alternative air pollution control equipment, the air pollution control equipment that the alternative would replace, and a detailed statement or report demonstrating that the air pollution control equipment would result in equivalent or better emission control than the equipment prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator to grant the petition, the facility shall incorporate the alternative air pollution control equipment in any required Operation and Maintenance (O&M) Plan.”

New Section 305.2: Added “Operation and Maintenance (O&M) Plan Requirements for Dust Control Measures: a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for equipment associated with any process fugitive emissions and fugitive dust control measures (i.e., gravel pads, wheel

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washers, truck washers, rumble grates, watering systems, and street sweepers) that are implemented to comply with this rule or an air pollution control permit. b. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.”

- Renumbered Section 305.4: Deleted “Section 305.1” and added “Section 305.”
- Section 306.1: Deleted “The” and added “For emissions that are not already regulated by an opacity limit, the.” Deleted “Section 502” and added “Section 503.”
- Section 306.3(b): Deleted “Maricopa County Environmental Services Department Air Quality Division” and added “Maricopa County Air Quality Department.”
- Section 306.3(c)(1)(a): Deleted “and Section 306.2.”
- Section 306.3(c)(1)(b): Deleted “Maintain a visible crust by applying water” and added “Before and during active operations, apply water.” Deleted “or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule” and added “to keep the soil visibly moist.”
- Section 306.3(c)(2): Added “inactive.”
- Section 306.3(c)(2)(a): Deleted “visible” and added “soil”. Deleted “Section 503 and Section 504” and added “Section 505.”
- Section 306.3(c)(3): Deleted “a” and added “an inactive.”
- Section 306.3(c)(3)(b): Deleted “visible” and added “soil.” Deleted “Section 503 and Section 504” and added “Section 505.”
- Section 306.4: Deleted “internal.”
- Section 306.4(a): Added “For unpaved roads” and “silt content exceeding 6%.”
- Section 306.4(b): Deleted “Silt content exceeding 6%” and added “For unpaved parking and staging areas, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup> or silt content exceeding 8%.”
- Section 306.5(a): Added “with an open area or a disturbed surface area on which no activity is occurring (including areas that are temporarily or permanently inactive).” Deleted “any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with.” Deleted “facility” and added “area.”
- Section 306.5(a)(1): Deleted “visible” and added “soil.”
- Section 306.5(a)(7): Deleted “of the Environmental Protection Agency (EPA).”
- Section 306.5(b): Deleted “disturbance” and added “visibly distinguishable stabilization characteristics.” Deleted “each representative surface shall be tested” and added “the owner and/or operator shall test each representative surface.” Deleted “Section 503 and Section 504” and added “Section 505.” Deleted “and shall be included in or eliminated from the total size assessment of disturbed surface area(s) depending upon test method results.”
- Section 307: Deleted “of the Environmental Protection Agency (EPA).” Deleted “of the EPA.” Added “When engaged in the activities described in Section 301 and Section 307.1 through Section 307.9 of this rule, the owner and/or operator of a facility shall install, maintain, and use fugitive dust control measures as described in Section 307.1 through Section 307.9 of this rule, as applicable.”
- Section 307.1: Deleted “in compliance with Section 306.1 and Section 306.5 of this rule.” Added “Section 306.2.”
- Section 307.1(a): Deleted “stacking.” Truck dumping is addressed in Section 307.1, under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation is addressed in Section 301 and would be a stack emission. Any type of stack is addressed by Sections 301, 302, and 303. Active system is in Sections 301, 302, and 303.

Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.

- Section 307.1(b): Deleted “stacking.” Truck dumping is addressed in Section 307.1, under “material handling”. Similar to Section 303.1(b). Enclosed truck dumping is an affected operation is addressed in Section 301 and would be a stack emission. Any type of stack is addressed by Sections 301, 302, and 303. Active system is in Sections 301, 302, and 303. Re-organized requirements based on equipment and discrete processes (e.g., lime silo at an aggregate plant) rather than based on the type of plant or facility (e.g., an aggregate plant). As originally written, control measures were required based-on the type of plant or facility and, as such, did not specifically address combinations of equipment and discrete processes at a plant or facility.
- Section 307.1(b)(1): Deleted “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(b)(2): Deleted “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(b)(3): Deleted “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”
- Section 307.1(b)(4): Deleted “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”
- Section 307.1(b)(5): Deleted “Meet one of the stabilization standards in Section 306.5 of this rule.”
- Renumbered Section 307.1(b)(5): Added “or.” Deleted “If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule.”
- New Section 307.1(b)(6): Added “Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings”.
- Section 307.1(c): Deleted “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.1(d): Deleted “in compliance with Section 306.1 and Section 306.5 of this rule.”
- Section 307.2: Deleted “stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures, in compliance with Section 306.4 and/or Section 306.5 of this rule, as applicable.” Added “implement one of the following fugitive dust control measures on areas other than the areas identified in Section 307.3 and Section 307.4 of this rule where loaders, support equipment, and vehicles operate.”
- Section 307.2(a): Deleted “Pre-water surface soils.” Added “Apply and maintain water.”
- Section 307.3: Added to heading “that are not in Permanent Areas of a Facility.”
- Section 307.3(a): Deleted “in compliance with Section 306.4 of this rule.”
- Section 307.3(b): Deleted “implementing one” and added “it is determined that none.” Deleted “is determined to be technically infeasible as obtained/approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) and as approved in the Dust Control Plan” and added “can be technically and feasibly implemented.” Added “Such determination shall be made and approved in writing by the Control Officer and the Administrator and shall be approved in the Dust Control Plan.”
- Section 307.4(a): Deleted “internal” and deleted “in the permanent areas of the facility /operation that include entrances, exits, warehouses and maintenance areas, office areas, concrete plant areas, asphaltic plant areas, and parking and staging areas, as approved in the Dust Control Plan.”

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- Section 307.4(b): Deleted “internal roads subject to Section 307.4(a) of this rule” and added “paved surfaces or cohesive hard surfaces, except.” Deleted “entering and exiting” and added “driving on roads leading to and from.”
- Section 307.4(c): Deleted “Section 307.5” and added “Section 307.6.” Deleted “and that comply with Section 306.5 of this rule.”
- Section 307.4(d): Added “The owner and/or operator of a facility shall pave or install a cohesive hard surface on permanent areas of a facility on which vehicles drive, as approved in the Dust Control Plan.”
- Section 307.6(a)(1): Deleted “The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout” and added “(a) The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. (b) The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout. (c) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.”
- Section 307.6(a)(4): Deleted “internal.”
- Section 307.6(a)(5): Deleted “internal.”
- Section 307.6(b)(1): Deleted “The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout” and added “(a) The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout. (b) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.”
- Section 307.6(b)(4): Deleted “internal roads.”
- Section 307.6(c)(1): Deleted “internal.”
- Section 307.6(c)(2): Deleted “internal.”
- Section 307.6(c)(3): Deleted “internal.”
- Section 307.6(c)(4): Deleted “Section 230” and added “Section 229.”

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- Section 307.6(e): Deleted “internal” from heading and added “Identified in the Dust Control Plan.” Deleted “internal” from introductory sentence and added “identified in the Dust Control Plan for a facility.”
- Section 307.6(e)(1): Deleted “internal.”
- Section 307.6(e)(2): Deleted “internal” and “as necessary to comply with Section 306 of this rule.”
- Section 307.6(e)(4): Deleted “internal.”
- Section 307.7: Added “so as to meet all of the applicable requirements in this rule.”
- Section 307.8: Deleted “one of.”
- Section 307.8(a): Deleted “internal” and added “or.”
- Section 307.8(b): Deleted “internal” and “or” and added “and.”
- New Section 308: Added “The owner and/or operator of a facility subject to this rule shall erect and maintain a facility information sign at the main entrance such that members of the public can easily view and read the sign at all times. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information”.
- New Section 308.1: Added “Facility name and permittee’s name.”
- New Section 308.2: Added “Current number of the air quality permit or of authority to operate under a general permit.”
- New Section 308.3: Added “Name and local phone number of person(s) responsible for dust control matters; and.”
- New Section 308.4: Added “Text stating: “Dust complaints? Call Maricopa County Air Quality Department – (Insert the accurate Maricopa County Air Quality Department complaint line telephone number).”
- Section 309: Added “or with five acres or more of disturbed surface area subject to a permit, whichever is greater” and deleted “or his designee.”
- Section 309.1: Added “to have full authority to ensure that fugitive dust control measures are implemented on-site and.”
- Section 309.2: Added “Be trained in accordance with the Comprehensive Dust Control Training Class conducted or approved by the Control Officer, successfully complete, at least once every three years, such Comprehensive Dust Control Training Class, and have a valid dust training certification identification card readily accessible on-site while acting as a Fugitive Dust Control Technician.”
- Section 309.4: Deleted “Be available within 30 minutes” and added “Be on-site at all times during primary dust-generating operations related to the purposes for which the permit was obtained.”
- Section 309.6: Added “Be authorized by the owner and/or operator of the facility to ensure that the site superintendent or other designated on-site representative of the owner and/or operator of the facility and water truck and water pull drivers for each site be trained in accordance with the Basic Dust Control Training Class conducted or approved by the Control Officer with jurisdiction over the site and successfully complete, at least once every three years, such Basic Dust Control Training Class.”
- New Section 310.1: Added “At least once every three years, the site superintendent or other designated on-site representative of the permit holder, if present at a site that has more than one acre of disturbed surface area that is subject to a permit issued by the Control Officer requiring control of PM<sub>10</sub> emissions from dust-generating operation, shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.”

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- New Section 310.2: Added “At least once every three years, water truck and water-pull drivers shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.”
- New Section 310.3: Added “All persons having successfully completed training during the 2006 and 2007 calendar years shall be deemed to have satisfied the requirement to successfully complete the Basic Dust Control Training Class, if the training that was completed was conducted or approved by the Control Officer. Completion of the Comprehensive Dust Control Training Class, as required in Section 309.2 of this rule, shall satisfy the requirement of this section of this rule.”
- Section 311: Deleted “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 and Section 307 of this rule. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.”
- New Section 311.1: Added “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 305.2, Section 306, Section 307, and Section 309 of this rule.”
- New Section 311.2: Added “The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all equipment associated with any process fugitive emissions to be implemented, in order to comply with Section 301 and Section 305.2 of this rule and that includes all of the information in Section 311.2(a) and Section 311.2(b) of this rule, as applicable. If an alternative plan for conducting required soil moisture tests is approved by the Control Officer, included in a Dust Control Plan, and implemented by the owner and/or operator, as allowed under Section 301.2(c)(6) of this rule, and if the Control Officer determines that such alternative plan included in a Dust Control Plan has been followed, yet fugitive dust emissions still exceed the standards of this rule, then the Control Officer shall issue a written notice to the owner and/or operator explaining such determination. The owner and/or operator shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer’s written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule. a. Documentation for the soil moisture content in order to comply with Section 301.2 of this rule. b. Documentation of soil moisture analysis for each move notice regarding portable sources.”
- New Section 311.3: Added “The Dust Control Plan shall, in addition, contain all the information described in Rule 310 – Fugitive Dust from Dust-Generating Operations of these rules.”
- New Section 311.4: Added “All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 – Fugitive Dust from Dust-Generating Operations of these rules.”
- New Section 311.5: Added “The Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan shall be deemed a violation of this rule.”
- New Section 311.6: Added “With each move notice regarding portable sources, the owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that meets the requirements of this section of this rule.”
- New Section 312: Added “General Requirements: An owner and/or operator of a facility subject to this rule shall be subject to the standards and/or requirements of this rule at all times. Failure to comply with any one of the following requirements shall constitute a violation.”

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- New Section 312.1: Added "Process emission limitations and controls described in Section 301, Section 302, and Section 303 of this rule."
- New Section 312.2: Added "Operation and maintenance (O&M) plan requirements for an emission control system and for dust control measures described in Section 305 of this rule."
- New Section 312.3: Added "Fugitive dust emission limitations described in Section 306 of this rule."
- New Section 312.4: Added "Fugitive dust control measures described in Section 307 of this rule."
- New Section 312.5: Added "Facility information sign requirement described in Section 308 of this rule."
- New Section 312.6: Added "Fugitive Dust Control Technician requirements described in Section 309 of this rule."
- New Section 312.7: Added "Basic Dust Control Training Class requirements described in Section 310."
- New Section 312.8: Added "Dust Control Plan requirements described in Section 311 of this rule."
- New Section 312.9: Added "Monitoring and recordkeeping requirements described in Section 500 of this rule."
- New Section 312.10: Added "Any other requirements of this rule."
- Section 401: Deleted "and the following schedule applies" and added "except as follows."
- New Section 401.1 Added new Section 401.1: "Process Controls: Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008."
- Renumbered Section 401.2: Deleted "Dust Control Plan: When complying with Section 309 of this rule, if a Dust Control Plan is required to be revised, then a revised Dust Control Plan shall be submitted to the Control Officer by September 30, 2005 or three months after rule adoption, whichever comes first" and adds "O&M Plan."
- New Section 401.2(a): Added "The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008."
- New Section 401.2(b): Added "The Control Officer shall take final action on an O&M Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete O&M Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial."
- Renumbered Section 401.3: Deleted "Pressure Control System: When complying with Section 303.2(e) of this rule, a pressure control system shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first" and adds "Dust Control Plan."
- New Section 401.3(a): Added "The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008."
- New Section 401.3(b): Added "The owner and/or operator of a new facility shall submit to the Control Officer a Dust Control Plan at the time such owner and/or operator submits a permit application to the Control Officer."
- New Section 401.3(c): Added "The Control Officer shall take final action on a Dust Control Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete Dust Control Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial."
- Renumbered Section 401.4: Deleted "Operational Overflow Warning System/Device: When complying with Section 302.2(a) and/or Section 303.2(a) of this rule, an operational overflow warning system/device shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first" and added "Basic Dust Control Training Class: No later than December 31, 2008, a site superintendent or other designated on-site representative of the permit holder, water truck drivers, and water pull drivers shall have successfully completed the Basic Dust Control Training Class, as described in Section 310 of this rule."

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- Renumbered Section 401.5: Deleted “Fugitive Dust Control Technician: When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after rule adoption, whichever comes first” and added “Comprehensive Dust Control Training Class: No later than June 30, 2008, a Fugitive Dust Control Technician shall have successfully completed the Comprehensive Dust Control Training Class, as described in Section 309 of this rule.”
- Renumbered Section 401.6: Deleted “Surface Stabilization Where Support Equipment and Vehicles Operate: When complying with Section 307.2 of this rule, surface stabilization and/or paving shall be completed by December 31, 2005 or six months after rule adoption, whichever comes first” and adds “Rumble Grates: As of June 12, 2008, new rumble grates or existing rumble grates that are moved or modified must meet the requirements described in Sections 307.6(a)(1)(c) or 307.6(b)(1)(b) of this rule.”
- Section 401.6: Deleted “Trackout: When complying with Section 307.6 of this rule, a rumble grate, wheel washer, or truck washer shall be installed and a schedule for using PM<sub>10</sub> efficient South Coast Air Quality Management Rule 1186 certified street sweepers shall be in place by January 1, 2006.”
- Section 401.7: Deleted “Process Emission Limitations and Controls: When complying with Section 301, Section 302, and/or Section 303 of this rule, process emission limitations shall be complied-with and controls shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.”
- Section 501: Added to heading “Monitoring”.
- Section 501.2(a)(4): Added “produced per day (cubic yards/day)”, “volume of”, and “(tons/day).”
- Section 501.2(a)(5): Deleted “(cubic yards/day)” and added “(tons per day).”
- New Section 501.2(a)(7): Added “For facilities that assert to be below the thresholds in Section 307.6(a) and Section 307.6(e)(1) of this rule, number of aggregate trucks, mixer trucks, and/or batch trucks exiting the facility.”
- Section 501.2(c)(3): Added “For watering systems (e.g., spray bars or an equivalent control): (a) Date, time, and location of each moisture sampling point; and (b) Results of moisture testing.”
- Section 501.3: Deleted “ECS.”
- Section 501.3(a): Added heading “for Any ECS, Any Other Emission Processing Equipment, and Any ECS Monitoring Devices that are Used Pursuant to this Rule or to an Air Pollution Control Permit.”
- Section 501.3(b): Added “for Equipment Associated with Any Process Fugitive Emissions and Any Fugitive Dust Control Measures that Are Implemented to Comply with This Rule or to an Air Pollution Control Permit: (1) A written record of self-inspection on each day that a facility is actively operating. Self-inspection records shall include daily inspections or in compliance with O&M Plan requirements, whichever is more frequent; (2) Maintenance of street sweepers; and (3) Maintenance of trackout control devices, gravel pads, wheel washers, and truck washers.”
- Section 501.4: Deleted “An owner and/or operator of a facility shall compile, maintain, and retain records as described in Rule 310 – Fugitive Dust of these rules” and adds “An owner and/or operator of a facility shall compile, maintain, and retain a written record of self-inspection of all fugitive dust control measures implemented, in order to comply with the Dust Control Plan, on each day that the facility is actively operating. Self-inspection records shall include information as described in Rule 310 – Fugitive Dust from Dust-Generating Operations of these rules.”
- New Section 501.5: Added “Basic Dust Control Training Class Records: An owner and/or operator of a facility shall compile, maintain, and retain a written record for each employee subject to Section 310 of this rule. Such written records shall include the name of the employee, the

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date of the Basic Dust Control Training Class that such employee successfully completed, and the name of the agency/representative who conducted such class.”

- Section 502: Deleted, from the heading, “40 Part 60, Appendix A Test Methods Adopted by Reference” and added “For Process Emissions and Controls.” In the first sentence, added “Compliance determinations for activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be made according to the”, deleted “the”, added “40”, deleted “July 1, 2004”, and added “July 1, 2007.” In the second sentence, added “Such subparts of 40 CFR Part 60, Appendix A, adopted as of July 1, 2007 and 40 CFR Part 51, Appendix M, adopted as of July 1, 2007.” In the third sentence, deleted “Environmental Services” and added “Air Quality.”
- Section 502.2: Deleted, from the heading “Determination” and added “Observations.” Deleted “Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the test methods described in Appendix C (Fugitive Dust Test Methods) of these rules” and added “Opacity observations to measure visible emissions from activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be conducted in accordance with the techniques specified in EPA Reference Method 203B (Visual Determination of Opacity of Emissions from Stationary Sources for Time-Exception Regulations), 40 CFR Part 51, Appendix M, adopted as of July 1, 2007. Emissions shall not exceed the applicable opacity standards described in Section 301 (excluding Section 301.1(e)), Section 302, and Section 303 of this rule for a period aggregating more than three minutes in any 60-minute period.”
- New Section 502.3: Added “Soil Moisture Testing for Watering Systems: a. If twice-daily moisture sampling is required, such sampling shall be conducted within one hour of startup and again at 3 pm or within one hour prior to daily shutdown but no less frequently than once every 8-hour period. b. If daily moisture sampling is required, such sampling shall be conducted within one hour after startup. c. Moisture testing shall be conducted on all crushers, shaker screens, and material transfer points (excluding wet plants). Unless prior approval from the Control Officer is granted, moisture testing shall be conducted at the following sample points: (1) Within 10 feet from the point where crushed aggregate material is placed on the discharge belt conveyor from the crusher; (2) Within 10 feet from the point where screened aggregate material is placed on the conveyor; and (3) From each stacker point. d. The number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced, if the owner and/or operator of a facility complies with all of the following requirements: (1) A 5% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule, is maintained at the primary crusher; (2) A minimum of 20 soil moisture samples are taken at all of the points identified in Section 502.3(c) of this rule; (3) A 4% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule and as demonstrated by the soil moisture samples required by Section 502.3(d)(2) of this rule, is maintained at all of the points identified in Section 502.3(c) of this rule; and (4) A written request is submitted to and approved by the Control Officer to revise/modify the Dust Control Plan to reflect the change in moisture content and the reduced number of sampling points according to the demonstration made by the owner and/or operator of a facility according to this section of this rule. e. Moisture testing is not required on a crusher and/or screen plant equipped with a baghouse or fabric filter, electrostatic precipitator, or wet scrubber, excluding wet spray bars, for control of particulate matter. f. Moisture testing shall include all aggregate material less than 0.25 inch in diameter. g. Moisture testing shall be conducted in accordance with the requirements of American Society for Testing and Materials C566-97 (2004) “Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying” with the exception that smaller sample portions may be used.”
- Section 503: Added “Compliance Determination for Emissions and Controls That Are Regulated by Section 301.1(e), Section 304, and/or Section 306 of This Rule: To determine compliance with the fugitive dust emission limitations described in Section 301.1(e), Section 304,

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and/or Section 306 of this rule, opacity observations shall be conducted in accordance with the techniques specified in Appendix C (Fugitive Dust Test Methods) of these rules.”

Renumbered Section 504.1: Deleted “D2216-98” and added “D2216-05.” Deleted “1998” and added “2005.”

Renumbered Section 504.2: Deleted “D1557-91 (1998)” and added “D1557-02e1.” Deleted “1998” and added “2002.”

Renumbered Section 505.1: Added “(not to exceed 6%)” and “(not to exceed 8%).”

Renumbered Section 505.2: Deleted “visible” and added “soil.” Deleted “/Steel Ball”.

Renumbered Section 505.8: Deleted “of the EPA.”

Renumbered Section 506: Re-numbered “Section 505” to “Section 506.”

**7. Demonstration of compliance with A.R.S. § 49-112:**

Under A.R.S. § 49-479(C), a county may not adopt a rule or ordinance that is more stringent than the rules adopted by the Director of the Arizona Department of Environmental Quality (ADEQ) for similar sources unless it demonstrates compliance with the requirements of A.R.S. § 9-112, which in Section (A) states:

When authorized by law, a county may adopt a rule, ordinance, or other regulation that is more stringent than or in addition to a provision of this title or rule adopted by the director or any board or commission authorized to adopt rules pursuant to this title if all the following conditions are met:

1. The rule, ordinance or other regulation is necessary to address a peculiar local condition;
2. There is credible evidence that the rule, ordinance or other regulation is either:
  - (a) Necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible.
  - (b) Required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the County rule, ordinance, or other regulation is equivalent to federal statutes or regulations.

The Maricopa County Air Quality Department (MCAQD) revised Rule 316 in order to address a peculiar local condition: The Phoenix nonattainment area’s air quality problem, as reflected in the EPA’s finding that the Phoenix nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline mandated in the Clean Air Act (CAA), December 31, 2006 and the agency’s requirement that a revision to the State Implementation Plan (SIP) be submitted by December 31, 2007 (72 FR 31183, June 6, 2007). The Phoenix nonattainment area is the only nonattainment area designated serious for PM<sub>10</sub> in Arizona. Consequently stronger regulations have been adopted in this area to address a serious health threat, the continued failure to meet the health-based federal ambient air quality standards. Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas that fail to attain ambient air quality standards for particulate pollution are required to submit within 12 months of the applicable attainment date, “plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of the amount of such emissions as reported in the most recent inventory prepared for such area.” In accordance with the CAA sections 179(d)(3) and 189(d)(3), the attainment deadline applicable to an area that misses the serious area attainment date is “as soon as practicable”. The Phoenix nonattainment area is one of three areas in the entire country for which the EPA has issued a finding that Section 189(d) has been triggered. As described in Sections 6 and 10 of this Notice of Final Rulemaking, Maricopa County and the EPA have concluded that the revisions implement control measures that are technologically and economically feasible based on creditable evidence of implementation in other western and desert environments. No evidence has been submitted to the MCAQD that disputes this conclusion. Because of this, the revision complies with A.R.S. §§ 9-112 (A)(1) and (A)(2). In addition, several of the revisions are required by A.R.S. § 49-474.01(A)(5, 6 and 11), A.R.S. §§ 49-474.05 and 49-474.06 recently enacted in Senate Bill 1552. Therefore, a demonstration of compliance with A.R.S. § 49-112 as required by the County’s general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to those rule provisions.

**8. Reference to any study relevant to the rule that the agency reviewed and either relied or did not rely on in its evaluation or justification for the rule; where the public may obtain or review each study; all data underlying each study, and any analysis of the study and other supporting material:**

Arizona Department of Environmental Quality, Air Quality Division, 2004a. "Final Revised PM<sub>10</sub> State Implementation Plan for the Salt River Area", Aug. 2004. To review, contact: Diane Arnst, Arizona Department of Environmental Quality, Mail code: 3415A-3, ADEQ Central Office, 1110 W. Washington St., Phoenix, AZ 85007, 602-771-2375.

Arizona Department of Environmental Quality, Air Quality Division, 2004b. "Revised PM<sub>10</sub> State Implementation Plan for the Salt River Area-Technical Support Document", Oct. 2004. To review, contact: Diane Arnst (address above).

Clark County, Nevada, BACT Analysis dated September 27, 2007. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004 ; email: jkuspert@mail.maricopa.gov, tel: 602-506-6710

Maricopa Association of Governments (MAG), 2007. "MAG 2007 Five Percent Plan for PM<sub>10</sub> for the Maricopa County Nonattainment Area". Dec. 2007. Available at: <http://www.mag.maricopa.gov/detail.cms?item=8072>

Maricopa County Air Quality Department, 2007. "2005 Periodic Emissions Inventory for PM<sub>10</sub> for the Maricopa County, Arizona Nonattainment Area". Final draft, May 2007. Available at: [http://www.maricopa.gov/aq/divisions/planning\\_analysis/emissions\\_inventory/reports/Default.aspx](http://www.maricopa.gov/aq/divisions/planning_analysis/emissions_inventory/reports/Default.aspx)

MCAQD, 2007, *ibid.*, Appendix 2.2: Rule Effectiveness Study for Maricopa County Rules 310, 310.01, and 316.

U.S. Environmental Protection Agency. AP-42 Chapter 13.2.4.3, Aggregate Handling and Storage Piles: Predictive Emission Factor Equations-Equation (1) dated November 2006. To review, contact: Johanna Kuspert, Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 595, Phoenix, AZ 85004; e-mail: jkuspert@mail.maricopa.gov, tel: (602) 506-6710.

**9. Showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable.

**10. Summary of the economic, small business and consumer impact:**

**10.1 Summary**

As required by A.R.S. § 41-1055, this economic, small business and consumer impact statement includes a discussion of the persons most likely to be impacted by the rule, along with a cost-benefit analysis of the rule's probable impact on the Maricopa County Air Quality Department (MCAQD) as the implementing agency and other public agencies, other political subdivisions of the state, and businesses affected by the rulemaking. Where data are unavailable or highly uncertain, this statement discusses the limitations of the data, the methods used to develop qualitative and/or quantitative estimates, and attempts to characterize all probable impacts in qualitative terms.

To submit or request additional data on the information included in the economic, small business and consumer impact statement, please contact:

Jo Crumbaker or Johanna Kuspert  
Planning and Analysis Division  
Maricopa County Air Quality Department  
1001 N. Central Ave., Suite 595  
Phoenix, AZ 85004  
jcrumbak@mail.maricopa.gov or jkuspert@mail.maricopa.gov

**10.2 Identification of the Rulemaking**

Each change to Rule 316 is described in detail under Item 6 above. While some changes are primarily administrative in nature or designed to clarify existing County air quality rules, a subset of the rule changes have been deemed to have potentially significant economic impacts, and are thus explicitly addressed in this Economic Impact Statement (EIS). These rule changes and the relevant sections include:

Required control measure options for crushing and screening operations: Rule 316, § 301.2

Addition of operation and maintenance (O & M) plan requirements for dust control measures: Rule 316, § 305.2

20% opacity for a period aggregating more than three minutes in any 60-minute period: Rule 316, § 306.1

Requirement for facility information sign: Rule 316, § 308

Dust control training classes: Rule 316, § 310

### 10.3 Entities Expected to be Affected by, Bear the Costs of, or Directly Benefit from the Rulemaking

Entities directly impacted by this rulemaking include certain permitted sources, pollution control vendors, contractors, consultants, lawyers, the County, private persons and consumers. With the revisions to Rule 316, Rule 316 requires compliance with emission limitations and the implementation of process controls and fugitive dust control measures for nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. An estimated 144 facilities in these industries are regulated by The Maricopa County Air Quality Department (MCAQD) and approximately 150 portable facilities that may operate in Maricopa County are regulated by the Arizona Department of Environmental Quality (ADEQ). Nonmetallic mineral processing plants and/or rock product plants can be classified into the following categories:

- Construction Sand and Gravel
- Industrial Sand and Gravel
- Concrete Batching
- Hot Mix Asphalt
- Batch Mix
- Parallel Flow Drum Mix
- Counterflow Drum Mix

### 10.4 Cost-Benefit Analysis

#### 10.4.1 The probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the rulemaking

Rule 316, § 301.2 Required control measure options for crushing and screening process emissions: The Maricopa County Air Quality Department (MCAQD) and ADEQ will incur the additional costs associated with the review of the revised Dust Control Plans that incorporate the new moisture standard and sampling frequency as a result of modifying the required control measures for crushing and screening process emissions. 51 out of the 144 Maricopa County sources include crushing or screening. Assuming ADEQ has a similar percentage, another 53 sources may have to revise their Dust Control Plans. The MCAQD estimates that each review will take approximately 3 hours @ \$27.50 per hour resulting in a total cost of \$8580. No other agencies will be affected by this rule.

Rule 316, § 305.2 Addition of operation and maintenance (O&M) plan requirements for dust control measures: The MCAQD and ADEQ will incur additional costs as a result of the requirement that owners/operators revise their O&M Plan and incorporate the O&M Plan into the Dust Control Plan already required under this rule. The costs for 104 facilities were estimated in the paragraph above (51 out of the 144 Maricopa County sources include crushing or screening; ADEQ has another 53 sources may have to revise their Dust Control Plans). The review of the revised plans for the remaining estimated 190 sources will total an additional \$15,675. No other agencies will be affected by this rule.

Rule 316, § 306.1 20% opacity for a period aggregating more than three minutes in any 60-minute period: The MCAQD and ADEQ will not incur any additional costs associated with the use of the time-exception form of the opacity standard.

Rule 316, § 308 Requirement for facility information sign: The MCAQD and ADEQ will not incur any additional costs associated with the rule requirement for an owner/operator to install a facility information sign.

Rule 316, § 310 Basic dust control training classes: The MCAQD will hire four additional FTEs to coordinate and conduct dust control training. Annual costs associated with the four additional FTEs, database maintenance, training materials, and room rental are estimated to be \$382,000. One-time costs are estimated to be \$460,000 for database development, equipment costs, and training materials. The MCAQD estimates that approximately 10.7% of these costs will be allocated to the facilities and personnel subject to this rulemaking.

#### 10.4.2 Probable Costs and Benefits to Other Political Subdivisions of the State

It is assumed that the only potential impact on other agencies and other political subdivisions of the state would be in a limited number of instances where these entities are themselves permit holders for activities regulated under Rule 316. As this occurs rather infrequently and these permits comprise only a small fraction of all regulated activity under Rule 316, it is anticipated that compliance with Rule 316 will impose no significant economic impact on any other agency or political subdivision of the state.

#### 10.4.3 Probable Costs and Benefits to Businesses Directly Affected by the Rulemaking

Rule 316, § 301.2 Required control measure options for crushing and screening process emissions: Owners/Operators regulated by Rule 316 with process emissions from crushing and screening operations will be required to pay for any increased cost associated with implementing one of the two possible control measure options provided under the rule revision as outlined above. There are no additional costs associated with the requirements of § 301.2(a) and § 301.2(b),

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since these requirements are currently required under the existing rule. The only cost increases are associated with one of the control measure options that requires operating watering systems to continuously meet soil moisture requirements and soil moisture testing under § 301.2(c) and the second control measure option that requires owners to enclose and exhaust the regulated process to a properly sized fabric filter baghouse under § 301.2(d). Available cost data are limited, but some example costs are discussed below. The baghouse system option was added in response to stakeholder comments in order to increase flexibility in the rule.

The requirement to operate watering systems to continuously meet soil moisture requirements is being applied in Clark County. Clark County is a desert environment with even less rainfall than Maricopa County. The implementation of watering systems to continuously meet soil moisture requirements in Clark County provides credible evidence that the control measure is technologically and economically feasible. Stakeholders have indicated that many Maricopa County facilities are mining product with 2% to 6% moisture, which represents a significant difference from Clark County. However, the MCAQD believes that such circumstances actually indicate that Maricopa County facilities will not have to add as much water to maintain a minimum soil moisture content which should reduce the cost. The revision implements control measures that are technologically and economically feasible based on credible evidence of implementation in other western and desert environments. No evidence was submitted to the MCAQD that disputes this conclusion.

The total annual cost to install an 8000 cubic feet per minute baghouse used to control crushing emissions is estimated to be \$77,000 (Justice & Associates, Inc., 2007). The cited costs were based on a 1 year project life for a temporary construction project. The baghouse cost includes the purchase price, freight, taxes, insurance, engineering, enclosures, duct work, and compressor. Costs will vary depending on the required size which will be based on airflow throughput requirements.

The total annual cost of continuous watering to maintain soil moisture content is estimated to be \$111,000 (Justice & Associates, Inc., 2007). Each source will be required to sample an estimated 2 to 10 or more sample points. Rule 316 includes an option to reduce both the number of sample points after 20 samples and the frequency of sampling after sampling for 4 weeks. One-time only expenses will include the installation of sampling platforms and guards and the purchase of a scoop, scale and microwave. Assuming that each sample takes approximately 0.5 hours to take and process and a personnel cost of \$35.00 per hour, each sample will cost \$17.50. The per facility costs are estimated to range from \$35 to \$210 per test required. Per day costs are estimated to range from \$35 to \$420. The MCAQD did not receive specific information on the labor costs and time necessary to better quantify the moisture testing impacts.

Rule 316, § 305.2 Addition of operation and maintenance (O&M) plan requirements for dust control measures: Owners/operators of facilities under Rule 316 are required to pay for the one-time costs associated with developing an O&M Plan and incorporating the O&M Plan into the Dust Control Plan already required under this rule. There is insufficient data at this time to delineate the labor time required to develop the O&M Plan.

Rule 316, § 306.1 20% opacity for a period aggregating more than three minutes in any 60-minute period: The new data reduction methods for the existing opacity standard will require that owners/operators more closely monitor their activities, processes, and controls to ensure proper operation at all times. Areas that successfully met the December 31, 2006 PM<sub>10</sub> attainment date – Clark County, Nevada; South Coast Air Quality Management District, California (SCAQMD); and San Joaquin Unified Air Pollution Control District, California (SJUAPCD) and six out-of 14 western states that are members of the Western Regional Air Partnership (WRAP) – administer rules that include the data reduction methodology in Rule 316. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the standard.

Rule 316, § 308 Requirement for facility information sign: Owners/operators subject to this rule will bear the costs of installing the required facility information sign. Since the lettering on the sign is only required to be 4 inches high, costs are expected to be minimal.

Rule 316, § 310 Basic dust control training classes: It is anticipated that the MCAQD fee for the basic dust control training class will be \$50. Each attendee will spend 4 hours in class, plus an estimated 1.5 hours for travel time and associated recordkeeping. Assuming an average wage of \$24.23/hour, the indirect costs of registering under this program would be \$133.27, for a total cost per registrant of \$183.27. With an estimated 10,336 persons required to enroll for a basic dust control training class, the estimated total costs on businesses of all sizes impacted by this rule of \$1,894,227.

Rule 316, § 309.2 Comprehensive dust control training class: It is anticipated that the MCAQD fee for the comprehensive dust control training class will be \$125. Each attendee will spend 8 hours in class, plus an estimated 1.5 hours for travel time and recordkeeping. Assuming an average wage of \$29.27/hour, the indirect costs of registering

under this program would be \$278.07, for a total cost per registrant of \$403.07, and a total cost on businesses of all sizes impacted by this rule of \$803,712.

#### **10.5 Impact on Private and Public Employment**

Estimates of increased workloads and anticipated additional staff (FTE's) required for the MCAQD to design, implement, and conduct the programs associated with the revisions to Rule 316 have been quantified individually in section 10.4.1 above. Since the MCAQD will be the implementing entity for such programs, no other significant impacts on public-sector employment of other agencies or political subdivisions of the state are anticipated. The potential financial impacts on permit holders (businesses and individuals), on a per-case basis, and cumulative impacts on all permit holders, have been described and quantified, insofar as possible, in section 10.4.3 above.

Rule 316, § 301.2 Required control measure options for crushing and screening process emissions: As discussed above, owners/operators of facilities under Rule 316 with process emissions from crushing and screening operations are required to pay for cost increases associated with implementing one of the two possible control measure options provided under Rule 316. The businesses directly affected by Rule 316 may be forced to offset any additional costs incurred in order to comply with Rule 316. Businesses may attempt to offset these additional costs by: (1) increasing prices of goods and services which may adversely affect sales; (2) reducing employee pay rates, and/or (3) eliminating jobs. Based on the cost data available, the MCAQD does not have sufficient data to quantitatively evaluate potential employment impacts for businesses impacted by Rule 316.

Rule 316, § 305.2 Addition of operation and maintenance (O&M) plan requirements for dust control measures: Owners/operators of facilities under Rule 316 are required to pay for the one-time costs associated with developing an O&M plan and incorporating the O&M plan into the Dust Control Plan already required under this rule. Costs incurred by businesses under the rule change are not expected to have any effect on employment.

Rule 316, § 306.1 Twenty % opacity for a period aggregating more than three minutes in any 60-minute period: The MCAQD did not receive process specific examples affected by Rule 316 in data reduction methodology and does not believe that employment will be affected by the rule change.

Rule 316, § 308 Requirement for facility information sign: Since costs for the installation of a facility information sign are expected to be minimal, employment will not be affected at businesses under the rule change.

Rule 316, §§ 309.2 and 310 Basic and comprehensive dust control training class: It is anticipated that the MCAQD, as the implementing agency, will require approximately 2.2 additional FTE's to oversee and implement these programs. The MCAQD is currently in the planning stages to certify other third-party entities to conduct these training programs, so some additional private-sector employment impact is likely, but this impact cannot yet be quantified precisely.

#### **10.6 Probable Impact of the Rulemaking on Small Businesses**

For all rule changes discussed in this analysis, a description of affected entities of all sizes is contained in Section 10.3 above. Due to constraints in time, available resources, and readily accessible current data, no reliable estimates on the separate impact on small businesses have been developed. Several rule changes such as the frequency of moisture testing and the requirement to have a Dust Control Coordinator onsite at all times include size cut-offs. For the reasons stated in Item 6 of this Notice of Final Rulemaking, and due to the inherent difficulty in identifying all sources which are small businesses, including the possibility that such status may change from year to year, the County has determined that it is not feasible to apply a separate standard to small businesses. The County does employ an ombudsman in the Business Resource Division, to whom small businesses may address their issues with regard to compliance with the rule.

##### **10.6.1 Alternative Methods Considered to Reduce Impact on Small Business**

Rule 316, §§ 09.2 and 310 Basic and comprehensive dust control training programs: The rulemaking imposes training requirements for site superintendents or other on-site representatives for facilities with greater than 1 acre (43,560 sq. ft.) of disturbed surface area that are subject to a permit by the Control Officer. The only qualitative assessment conducted for business-size relates to the size of a facility's disturbed surface area. Based on this criterion, the financial and administrative burden will be more limited for facilities that do not meet the 1 acre size criteria. No other alternatives were considered; the parameters of the training programs have been prepared to comply with A.R.S. § 9-474.05.

##### **10.6.2 Probable Costs and Benefits to Private Persons and Consumers**

All changes to Rule 316 are designed to reduce particulate matter emissions with the ultimate goal of protecting the public health and welfare by attaining PM<sub>10</sub> and PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) throughout Maricopa County. A detailed description of the benefits for the public at large are excerpted from a cost analysis conducted by ADEQ (2004) and is provided below.

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Improvement in air quality will generate cost-saving benefits by avoiding adverse-health effects, such as emergency room visits, hospital admissions, acute pediatric bronchitis, chronic adult bronchitis, acute respiratory symptom days, and even premature death. Potential benefits arising from a reduction in particulate matter and other pollutants emitted into the atmosphere can be inferred from data associated with the reduction of any airborne particulate matter (PM).

Some of health effects of human exposure to PM can be quantified while others cannot. Quantified adverse-health effects include: mortality, bronchitis (chronic and acute), new asthma cases, hospital admissions (respiratory and cardiovascular), emergency room visits for asthma, lower and upper respiratory illness, shortness of breath, respiratory symptoms, minor restricted activity days, days of work loss, moderate or worse asthma status of asthmatics. Unquantifiable adverse-health effects include: neonatal mortality, changes in pulmonary function, chronic respiratory diseases (other than chronic bronchitis), morphological changes, altered host defense mechanisms, cancer, and non-asthma respiratory emergency room visits (U.S. EPA, 1999a).

Epidemiological evidence shows that particulates have negative health impacts in a variety of ways, including: increased mortality and morbidity; more frequent hospital admissions, emergency room and clinician visits; increased need and demand for medication; and lost time from work and school. There is also increasing evidence that ambient air pollution can precipitate acute cardiac episodes, such as angina pectoris, cardiac arrhythmia, and myocardial infraction, although the majority of PM-related deaths are attributed to cardiovascular disease (The U.S. EPA's PM Health Effects Research Center Program, prepared by PM Centers Program staff, January 2002).

New evidence also links exposure to ambient PM concentrations to airway inflammation that in turn produces systemic effects, such as acute phase response with increased blood viscosity and coagulability, as well as increased risk of myocardial infraction in patients with coronary artery disease. Chronic effects of repeated airway inflammation may also cause airway remodeling, leading to irreversible lung disease. Individuals with asthma and chronic obstructive pulmonary disease may be at even higher risk from repeated exposure to particulates, according to the U.S. EPA's PM Health Effects Research Center Program.

The Health Effects Institute confirmed the existence of a link between particulate matter and human disease and death (premature mortality). The data revealed that long-term average mortality rates, even after accounting for the effects of other health effects, were 17–26% higher in cities with higher levels of airborne PM (Health Effects of Particulate Air Pollution: What Does The Science Say Hearing before the Committee on Science, House of Representatives, 107th Congress of the U.S., second session, May 8, 2002). Data further reveal that every 10-microgram increase in fine particulates per cubic meter produces a 6% increase in the risk of death by cardiopulmonary disease, and an 8% increase for lung cancer. Even very low concentrations of PM can increase the risk of early death, particularly in elderly populations with preexisting cardiopulmonary disease (STAPPA/ALAPCO, 1996).

In 2002 alone, chronic obstructive pulmonary disease cost the U.S. more than \$32 million, a sum not including costs attributable to asthma (American Lung Association, 2003). In Arizona, deaths attributable to asthma have equaled or exceeded national rates from 1991–1998. In 1998, some 316,200 Arizonans suffered breathing discomfort or asthma related stress (ADHS, 2002).

The MCAQD expects that a reduction in PM potentially will create commensurate cost-saving benefits to the general public by contributing towards reducing these emissions-related health problems. The Rule 316 rulemaking will help improve the general quality of life for the citizens of Maricopa County, particularly those residing near sources that have reduced PM emissions and other air pollutants associated with the manufacturing processes.

Health benefits can be expressed as avoided cases of PM related-health effects and assigned a dollar value. The EPA used an average estimate of value for each adverse-health effect of criteria air pollutants. Table 1 contains valuation estimates from the literature reported in dollars per case reduced. For example, the table shows a value of \$401,000 (in 2006 dollars) per case of chronic bronchitis avoided.

**Table 1. Monetized Adverse-Health Effects Avoided From Exposure to PM**

<b>Adverse Health Effect *</b>	<b>Per Case Valuation (1990 dollars)</b>	<b>Per Case Valuation (2006 dollars)</b>
Mortality	\$4,800,000	\$7,403,800
Chronic bronchitis	\$260,000	\$401,000
Hospital admissions for respiratory conditions	\$6,900	\$10,640
Hospital admissions for cardiovascular conditions	\$9,500	\$14,650
Emergency room visits for asthma	\$194	\$299
Acute Bronchitis	\$45	\$69
Asthma attack	\$32	\$49

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Moderate or worse asthma day	\$32	\$49
Acute respiratory symptom	\$18	\$28
Upper respiratory symptom	\$19	\$29
Lower respiratory symptom	\$12	\$19
Shortness of breath, chest tightness, or wheeze	\$5	\$8
Work loss day	\$83	\$128
Mild restricted activity day	\$38	\$59

\* An individual's health status and age prior to exposure impacts his/her susceptibility. At risk persons include those who have suffered a stroke or have cardiovascular disease. Some age cohorts are more susceptible to air pollution than others, i.e., children and elderly.

Source: Derived from U.S. EPA, 1999b. According to EPA, cost values of these illnesses tend to underestimate the true value of avoiding these adverse-health effects. Mean estimates of willingness-to-pay (WTP) were used to derive values, unless WTP values were not available, in which case, the cost of treating or mitigating the effects was used. The value of an avoided asthma attack, for example, would be a person's WTP to avoid that symptom.

Mortality in Table 1 actually refers to statistical deaths, or inferred deaths due to premature mortality. A small decline in the risk for premature death will have a certain monetary value for individuals, and as such, they will be willing to pay a certain amount to avoid premature death. For instance, if PM emissions are reduced so that the mortality risk on the exposed population is decreased by one in one-hundred thousand, then among 100,000 persons, one less person will be expected to die prematurely. If the average willingness-to-pay (WTP) per person for such a risk reduction were \$75, the implied value of the statistical premature death avoided would be \$7.5 million.

**10.7 Probable Effect on County and State Revenues**

If Arizona is unable to submit a plan that demonstrates a 5% per year reduction in PM<sub>10</sub> and is unable to demonstrate attainment at the monitors based on implemented control measures such as this rule, the EPA will be required to make a nondiscretionary finding that Arizona has failed to submit an approvable plan. If the County and Arizona fail to correct the identified deficiencies described in the EPA's nondiscretionary finding within the timeframe specified, sanctions under § 179 of the Clean Air Act (CAA) will be imposed. Sanctions include loss of highway funds and stricter emission offset requirements for major sources. In addition, under § 110(c) of the CAA, the EPA would then need to promulgate a Federal Implementation Plan (FIP) no later than 24 months after the date of publication of the EPA's nondiscretionary finding.

Some of the rule changes will result in increased fee revenue to the MCAQD. The MCAQD revised its fee schedule (under a separate rulemaking) in order to recoup the costs of designing, implementing, and administering new programs contained within the present rulemaking. A list of the programs, along with estimates of user fees and overall revenue projections, is as follows:

<b>Program</b>	<b>Est'd Users</b>	<b>Fee/User</b>	<b>Estimated Annual Revenue</b>
Basic Dust Control Training Class	10,336	\$50	\$516,800
Comprehensive Dust Control Training Class	1,994	\$125	\$249,250

No other significant impact on state or County revenues from the present rulemaking is anticipated.

**10.8 Alternative Methods Considered to Achieve the Purpose of the Rulemaking**

Rule 316, §§ 09.2 and 310 Basic and comprehensive dust control training classes: No alternatives were considered; the parameters of the programs have been prepared to comply with A.R.S. § 9-474.05.

**10.9 Data Availability and Limitations of Assumptions**

This economic impact statement was developed in accordance with A.R.S. § 1-1055 to assess the potential economic impacts of the changes to Rule 316. Sources of data and any assumptions used to develop these estimates have been included in the discussion of these analyses; and where data are lacking or uncertain, this has been noted wherever possible. The MCAQD welcomes all interested parties to provide additional relevant information and documentation on the anticipated costs and benefits resulting from compliance with Rule 316.

**11. Name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name:                               Johanna M. Kuspert or Jo Crumbaker  
                                           Maricopa County Air Quality Department

County Notices Pursuant to A.R.S. 49-112

Address: 1001 N. Central Ave., Suite 595  
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E-mail address: jkuspert@mail.maricopa.gov or jcrumbak@mail.maricopa.gov

**12. Description of the changes between the proposed rule, including supplemental notices and final rule:**

Since the final draft of Rule 316 was published in the Notice of Proposed Rulemaking on November 9, 2007 and in response to formal comments received during the formal comment period (November-December 2007), the following changes to Rule 316 have been made. These changes appear in the text of the final rule published in this Notice of Final Rulemaking:

Rule 316, Section 220: In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, the definition of end of work day was proposed to read as follows: “The end of a working period that may include one or more work shifts but not later than 8 pm.” In this Notice of Final Rulemaking, to make the definition less ambiguous as to what is considered to be the end of a working period, because some sources work 24 hours a day. Changed the definition of end of work day such that it reads: “The end of a working period that may include one or more work shifts. If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.”

Rule 316, Section 227: Added “or pit”.

Rule 316, Section 236: In the first sentence of the definition of open storage pile, deleted “which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more” and added “that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet.” The intent is that the surface area of the storage pile is of concern – not the footprint of the storage pile.

Rule 316, Section 305: In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, “at all times” appeared as new text in the first sentence. In this Notice of Final Rulemaking, deleted “at all times” from the first sentence of final draft Rule 316, Section 305. The first sentence in Section 305 reads as follows: “An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule.”

Rule 316, Renumbered Section 305.4: Deleted “Section 305.1” and added “Section 305.”

Rule 316, Section 306.3: In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, “and Section 306.2” was proposed to be deleted in the introductory sentence. In this Notice of Final Rulemaking, “and Section 306.2” was not deleted in the introductory sentence. In final draft Rule 316, Section 306.3 remains un-changed and reads as follows: “Wind Event: The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meet the following conditions.” Final draft Rule 316, Section 306.3 remains un-changed because the 20% opacity limitation and the visible emission limitation beyond the property line do not apply during a wind event, if the owner and/or operator of a facility meets the specified conditions.

Rule 316, Section 306.3(c)(1)(b): In item 5 of the Notice of Proposed Rulemaking (the section by section explanation of changes of the Notice of Proposed Rulemaking), revisions to Section 306.3(c)(1)(b) were described as follows: “This revision deletes “Maintain a visible crust by applying water” and adds “Before and during active operations, apply water.” This revision deletes “or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule” and adds “to keep the soil visibly moist.” In draft Rule 316 that was submitted with the Notice of Proposed Rulemaking, Section 306.3(c)(1)(b) did not show text that was proposed to be deleted as struck-thru. In this Notice of Final Rulemaking in Item #6 (the section by section explanation of changes) are described the same revisions to Section 306.3(c)(1)(b) as described in the Notice of Proposed Rulemaking. Also, final draft Rule 316 that is being submitted with this Notice of Final Rulemaking shows text that is being proposed to be deleted as struck-thru.

Rule 316, Section 307.7: In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, “so as to meet all of the requirements in this rule” appeared as new text. In this Notice of Final Rulemaking, added “applicable” to such new text. In final draft Rule 316, Section 307.7 reads as follows: “The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.”

Rule 316, Section 401: Deleted “and the following schedule applies” and added “except as follows.”

Rule 316, New Section 401.1: Added “Process Controls: Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.”

Rule 316, New Section 401.2(a): Added “The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008.”

Rule 316, New Section 401.3(a): Added “The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.”

Rule 316, Section 502: Added “(excluding Section 301.1(e))” to references to “Section 301”. The test methods listed in Section 502 apply to all of the activities described in Section 301 except for those activities described in Section 301.1(e). Also, changed “July 1, 2004” to “July 1, 2007” and added “40 CFR Part 51, Appendix M, adopted as of July 1, 2007.”

Rule 316, Section 502.2: Added “(excluding Section 301.1(e))” to references to “Section 301”. The test methods listed in Section 502.2 apply to all of the activities described in Section 301 except for those activities described in Section 301.1(e). Also, added “40 CFR Part 51, Appendix M, adopted as of July 1, 2007.”

Rule 316, Section 503: Added “Section 301.1(e)” in heading and in first sentence.

**13. A summary of the comments made regarding the rule and the department response to them:**

The Maricopa County Air Quality Department conducted three public workshops in July and August 2007 during the rulemaking process for Rule 316, and received formal comments during the formal comment period (November–December 2007) from the Arizona Rock Products Association (ARPA) and the Joint Environmental Task Force. The formal comments and the MCAQD’s responses to such formal comments are written below:

**Comment #1:** The Arizona Rock Products Association (ARPA) suggests that the Department clearly identify all issues and concerns (including those raised by stakeholders) and explain how the Department proposes to address them during the stakeholder process in order to allow them the opportunity to provide important feedback and/or to identify other potential issues or provide suggestions. Without clearly identifying the issues and concerns of the Department and affected stakeholders or providing an explanation on how the Department proposes to address those issues and concerns, stakeholders have no meaningful opportunity to participate in the process.

**Response #1:** The Maricopa County Air Quality Department (MCAQD) is committed to an open and collaborative rulemaking process and had endeavored to provide all interested stakeholders opportunities to provide review and feedback throughout the rule development process. The MCAQD held three public workshops (August 30, September 9, and September 17, 2007) to offer all interested parties the opportunity to discuss drafts of the proposed rules, ask questions of the MCAQD rulemaking staff, express their concerns, and provide feedback. During these public workshops and throughout the rule development process, the MCAQD described the proposed changes to Rule 316 that are designed to address deficiencies and clarifications identified by the U.S. Environmental Protection Agency (EPA). Stakeholders were also notified during the public workshops regarding proposed rule changes that were introduced to comply with commitments required as part of the Maricopa Association of Governments (MAG) Five Percent Plan for PM<sub>10</sub>. Under § 89(d) of the federal Clean Air Act, 42 U.S.C. § 513a(d), Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As described in Item 6 of this draft Notice of Final Rulemaking, obtaining from the EPA an extension of the State’s deadline for complying with the PM<sub>10</sub> air quality standard was contingent upon demonstrating to the EPA that the SIP includes the most stringent measures that are included in the implementation plan of any State or that are achieved in practice in any State and can feasibly be implemented in this area.

**Comment #2:** ARPA objected to inclusion in the rule of new requirements based on Best Available Control Measures (BACM) and Most Stringent Measures (MSM), questioning whether the EPA’s proposed approval of a prior version of Rule 316 indicated that inclusion of the new measures is not necessary to ensure the EPA approval of the rule and the SIP: “Notwithstanding the proposed approval of the June 8, 2005 version of Rule 316 by the EPA on July 12, 2006 as meeting BACM/MSM requirements, ARPA understands that the EPA staff provided the Department with an email dated July 9, 2007, which states that the Department ‘has not adequately demonstrated that it implements BACM...and include MSM.’ The Department has identified this email and other conversations with the EPA staff as the justification for now

imposing several new requirements in Rule 316 that are presumably modeled after controls implemented in other jurisdictions after the revisions to Rule 316 to meet federal BACM/MSM requirements were adopted.”

**Response #2:** ARPA is correct that the EPA’s position with regard to BACM and MSM was among the reasons for inclusion of the additional measures in the final version of Rule 316, as further explained in Item 6 of this draft Notice of Final Rulemaking but mistaken about the impact of the EPA’s prior proposed approval, which does not negate the requirement in this rule for Maricopa County to identify and adopt BACM and MSM. In finalizing the approval of adopted rules, resolutions and measures submitted by the state for the Revised PM<sub>10</sub> SIP for the Salt River Area cited above, the EPA noted that, “The EPA is not, however, including Rule 316 in this final action because we are re-evaluating the rule and expect to address it in a separate rulemaking.” (72 FR 46564, August 21, 2007) The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM<sub>10</sub> nonattainment areas. The EPA noted that other jurisdictions require nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. For example, Clark County, Nevada has imposed these requirements on a case-by-case basis for more than 10 years. Since these requirements are more stringent than those defined in the 2005 rule revision and have played an integral role in allowing Clark County to attain the PM<sub>10</sub> NAAQS, Maricopa County has incorporated similar requirements into Rule 316 as representing BACM/MSM. The EPA’s July 9, 2007 correspondence (transmitted via e-mail) states unequivocally that the EPA believes the additional measures are necessary for final approval of Rule 316 and the SIP, of which Rule 316 is a necessary component: “Maricopa County Air Quality Division (MCAQD) revised Rule 316, “Nonmetallic Mineral Processing,” on June 8, 2005. On July 12, 2006 (71 FR 39251), EPA proposed to approve this rule as a SIP revision pursuant to Clean Air Act (CAA) section 110(k). EPA received extensive comments on its proposed approval during the public comment period. Thereafter, on April 12, 2007, in connection with state court litigation on the rule, MCAQD issued a clarification document (Clarification). The Clarification contains MCAQD’s interpretation of various provisions of Rule 316 as adopted on June 8, 2005. EPA understands that MCAQD intends to address the issues raised in the Clarification in upcoming additional revisions to Rule 316. As a result of the public comments on EPA’s proposed action and the interpretations proffered by MCAQD in the Clarification, we have re-evaluated Rule 316 and now believe that MCAQD has not adequately demonstrated that it implements best available control measures (BACM) required by CAA section 189(b)(1)(B) and includes most stringent measures (MSM) required by CAA section 188(e).” The EPA confirmed its position with regard to Rule 316 during public comment on the Department’s Notice of Proposed Rulemaking, by letter dated December 3, 2007. In the letter, the EPA reiterated its position that “we do not think that the [June 8 version of Rule 316] could meet the Best Available Control Measures (BACM) requirements in the Clean Air Act Section 189(b)(1)(B) and the Most Stringent Measures (MSM) requirements in Section 188(e) without the inclusion of a moisture content standard for crushing and screening operations and the associated testing requirements.” The EPA likewise confirmed its position that the moisture content standard and testing requirements are necessary for approval of Rule 316 and the SIP during public comment herein, by letter dated December 3, 2007, stating: “we believe that the current proposed revisions to Rule 316 meet the Clean Air Act BACM and MSM requirements. Moreover, we believe that the emission reduction that will be achieved by strengthening Rule 316 are vital for Maricopa County’s continuing efforts towards attaining the 24-hour PM<sub>10</sub> standard.”

**Comment #3:** ARPA commented that: “The Department’s Notice of Proposed Rulemaking restates that ‘The EPA has advised Maricopa County that Rule 316 has not included all BACM and MSM for nonmetallic mineral mining sources.’ As indicated in the Department’s Notice of Rulemaking Docket Opening, the current revisions to Rule 316 were not intended to address BACM/MSM requirements. More importantly, the current rulemaking process does not provide another opportunity for the Department or the EPA to pour [sic] over new requirements in other jurisdictions for purposes of imposing additional requirements in Maricopa County under the guise of updating the BACM/MSM demonstrations in the June 8, 2005 Rule 316 revisions...even if BACM/MSM requirements somehow provided a justification for now imposing new requirements in the current Rule 316 revision process, the Department has not conducted the necessary technical and economic feasibility analysis for implementing such requirements in Maricopa County. Any proposed revisions without such analysis do not meet federal BACM/MSM requirements and are invalid under Arizona law.”

**Response #3:** Maricopa County publishes A Notice of Rulemaking Docket as a courtesy to the public and affected stakeholders. The scope of rule revisions and/or corrections is not limited to that outlined in the docket opening. The docket opening does serve to inform the public that a particular rule will be opened and issues addressed. The Department also published a separate docket opening for the Five Percent Plan Rulemaking that applied to the listed rules and other rules that may be affected. The statement that "the current rulemaking process does not provide another opportunity for the Department or the EPA to pour over new requirements in other jurisdictions..." is in error. During the course of reviewing the June 2005 Rule 316 revisions, the EPA determined that the BACM/MSM requirements of the revision were deficient based on more stringent requirements successfully implemented in other jurisdictions. In response to this deficiency, Maricopa County incorporated additional requirements to ensure that MSM is applied to

applicable facilities in the Maricopa County PM<sub>10</sub> nonattainment area. The BACM/MSM requirements added to the rulemaking were successfully implemented in other jurisdictions such as Clark County and are currently in practice in a desert environment; therefore, the technical feasibility is not in question. The MCAQD conducted an economic feasibility analysis, which is included in the Notice of Proposed Rulemaking.

**Comment #4:** ARPA objected to “piling on of additional requirements,” as follows: “The 2005 revisions to Rule 316 contained several additional requirements purportedly to ‘enhance’ Rule 316 without any justification as to whether the requirements met BACM/MSM requirements. Similarly, the currently proposed revisions to Rule 316 contain additional requirements without any showing by the Department that such requirements are necessary or that they result in any demonstrable environmental benefit.”

**Response #4:** As further explained in response to comment #2 and in Item 6 of this draft Notice of Final Rulemaking, the additional measures are required as a matter of federal law and do comply with the provisions of Arizona Revised Statute (A.R.S.) § 49-112. ARPA’s comment calls for Maricopa County and the State, in order to refrain from further regulating ARPA member operations, to induce the EPA disapproval of the SIP, which disapproval would trigger significant sanctions and likely prompt imposition of a federal implementation plan (which plan would likewise include the measures to which ARPA objects). At the time the June 2005 rule revision was published, an analysis was conducted with the best available data to determine BACM/MSM for applicable facilities in the Maricopa County nonattainment area. The EPA identified deficiencies and recommended clarifications during its review of 2005 rule revisions as stated in the agency’s July 9, 2007 correspondence to the MCAQD and ADEQ. The following changes were made to Rule 316 to address those comments:

- 1) Revisions to require control measure options for crushing and screening operations.
- 2) Addition of operation and maintenance (O&M) plan requirements for dust control measures.
- 3) Requirement for dust control training classes.

Additional rule changes were made to comply with commitments made in the Five Percent Plan for PM<sub>10</sub>. Under Section 189(d) of the Clean Air Act, Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. Other changes were made to keep Maricopa County Air Pollution Control Rules consistent and uniform as identified in the Notice of Proposed Rulemaking.

**Comment #5:** ARPA objected to a “lack of specificity” for the basis of rule revisions, as follows: “Because the Notice of Proposed Rulemaking lumps together the purported basis and authorities for all of the proposed revisions to Rule 316, the public is unable to determine whether the County’s demonstration of compliance with A.R.S. § 49-112 (or any other purported authority) has been met for individual Rule 316 revisions. Without clearly and specifically identifying the basis and authority and the grounds and evidence of compliance with A.R.S. § 49-112 for each of the Rule 316 revisions, the Notice of Proposed Rulemaking provides no meaningful opportunity to comment as required by A.R.S. § 49-112.”

**Response #5:** As set forth more fully in response to comment #2 and in Item 6 of this Notice of Final Rulemaking, Maricopa County has met its burden of demonstrating compliance with A.R.S. § 49-112. All of the changes in the rule have been made to address deficiencies and recommended clarifications identified by the EPA in the July 9, 2007 correspondence from the EPA to the MCAQD and ADEQ and to incorporate commitments made in the MAG Five Percent Plan for PM<sub>10</sub>. Other changes were made to keep Maricopa County Air Pollution Control Rules consistent and uniform as identified in the Notice of Proposed Rulemaking. A.R.S. § 49-112 allows a County to adopt a regulation more stringent than general state law when doing so is (1) necessary to address a peculiar local condition; and (2) either (a) necessary to prevent a resulting significant threat to public health and technologically and economically feasible or (b) required under a federal statute or regulation. Maricopa County’s PM<sub>10</sub> problem is a peculiar local condition within the meaning of A.R.S. § 49-112(A)(1). The EPA determined that the Maricopa County nonattainment area did not attain the 24-hour PM<sub>10</sub> standard by the deadline mandated in the CAA, December 31, 2006 (72 FR 31183, June 6, 2007). The rule revisions were also “required under federal statute or regulation” within the meaning of A.R.S. § 49-112(A)(2)(b). Under Section 189(d) of the CAA, serious PM<sub>10</sub> nonattainment areas like Maricopa County that fail to attain PM<sub>10</sub> standards are required to submit within 12 months of the applicable attainment date, “plan revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for the annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of the amount of such emissions reported in the most recent inventory prepared for such area.” Maricopa County submitted a Five Percent Plan for PM<sub>10</sub> in December 2007. The Maricopa County nonattainment area is one of three areas in the entire country for which the EPA has issued a finding that Section 189(d) has been triggered. Further, CAA Section 188(d) makes an extension of the attainment deadline for serious nonattainment areas contingent upon inclusion in the SIP of the Most Stringent Measures (MSM) included in the

implementation plan of any other State and which can feasibly be implemented in the plan. The moisture content and other measures included in Rule 316, as revised, constitute MSM, as they are implemented in Clark County, Nevada and therefore are part of the Nevada SIP, and can be feasibly implemented in Maricopa County. In addition, several of the revisions are required by A.R.S. §§ 49-474.01(A)(5), (A)(6), and (A)(11), recently enacted in Senate Bill 1552. Therefore, a demonstration of compliance with A.R.S. § 49-112 as required by the County's general grant of rulemaking and ordinance authority in A.R.S. § 49-479 does not apply to those rule provisions.

**Comment #6:** ARPA objected that the rule contained an "incomplete and unsupported economic, small business, and consumer impact statement": "The Department has not considered all of the costs to businesses affected by the proposed rulemaking. The Department has made no demonstration that the proposed Rule 316 revisions will result in any decrease in particulate matter emissions whatsoever. Without any evidence that the proposed revisions will result in any reduction in particulate emissions, the purported benefits are unsupported. With no demonstrable benefits, the Notice of Proposed Rulemaking's cost-benefit analysis does [not?] satisfy the requirements of A.R.S. § 41-1055."

**Response #6:** The economic, small business, and consumer impact statement was based on the best available data at the time of the rulemaking. In accordance with A.R.S. § 41-1055, data limitations were noted wherever possible and Section 9.9 of the Notice of Proposed Rulemaking noted that "...the MCAQD welcomes all interested parties to provide additional relevant information and documentation on the anticipated costs and benefits resulting from compliance with the proposed rule(s)." On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted that Maricopa County had not identified all BACM/MSM that pertain to nonmetallic mineral processing facilities as required for serious PM<sub>10</sub> nonattainment areas. To address this deficiency, Maricopa County has incorporated proper BACM/MSM requirements for nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. These requirements have been successfully implemented in other jurisdictions to attain the PM<sub>10</sub> national ambient air quality standards (NAAQS). Therefore, the reduction in particulate emissions and expected benefits are well supported. The Maricopa Association of Governments (MAG) has now completed the Five Percent Plan. Since that data is now available, the Department will add text to the economic analysis to estimate emission reductions. The Department is unable, however, to separate the increase in compliance among individual measures that are designed to increase compliance. Since the comment still does not provide information on existing moisture contents, the Department will assume an average baseline moisture content in Maricopa County of 1.5%, which is consistent with background information collected from AP-42 Chapter 13.2.4.3, Aggregate Handling and Storage Piles: Predictive Emission Factor Equations—Equation (1) dated November 2006. This is the upper end of moisture contents found in Clark County. Using AP-42, the MCAQD estimates that increasing the soil moisture content from 1.5% to 4% will raise the control efficiency from 81.5% to 95.3% for crushing and screening emissions. Under Section 189(d) of the Clean Air Act, Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As part of the 5% emissions reduction plan, the final Rule 316 revision includes changes in the data reduction method for opacity observations from EPA Reference Method 9 to EPA Reference Method 203B for certain dust-generating operations. The use and enforcement of Method 203B ensures emissions reductions by limiting the total number of exceedances of the opacity standard over a 1 hour time span. The benefits of the rule changes have been clearly demonstrated since they have been proven to reduce emissions and improve air quality conditions in other jurisdictions; therefore, the requirements of A.R.S. § 41-1055 have been satisfied.

**Comment #7:** ARPA commented that: "The economic, small business, and consumer impact statement does not provide a description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed rulemaking as required by A.R.S. § 41-1055."

**Response #7:** On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM<sub>10</sub> nonattainment areas. To address this deficiency, Maricopa County has incorporated proper BACM/MSM requirements for nonmetallic mineral processing facilities to establish specific minimum moisture content standards and testing requirements. These requirements have been successfully implemented in other jurisdictions to attain the PM<sub>10</sub> NAAQS. Under Section 189(d) of the Clean Air Act, Maricopa County was required to submit State Implementation Plan (SIP) revisions which provide for attainment of the PM<sub>10</sub> air quality standard and, from the date of such submission until attainment, for an annual reduction in PM<sub>10</sub> or PM<sub>10</sub> precursor emissions within the area of not less than 5% of such emissions as reported in the most recent inventory prepared for such area. As part of the 5% emissions reduction plan, the final Rule 316 revision includes changes in the data reduction method for opacity observations from EPA Reference Method 9 to EPA Reference Method 203B for certain dust-generating operations. The use and enforcement of Method

203B ensures emissions reductions by limiting the total number of exceedances of the opacity standard over a 1 hour time span. Maricopa County analyzed various control measure options, including those used in other jurisdictions, in the development of the rule changes. It was determined that the 4% moisture content standard and testing requirements represent BACM/MSM for the serious PM<sub>10</sub> nonattainment area. The Department determined that, although a number of moisture testing devices are available, the less time-consuming devices had various limitations and still had to be calibrated to the ASTM C566-97 (2004) test method in the rule. With appropriate QA/QC plans, however, these other devices may be used for parametric monitoring after demonstrating correlation to the ASTM C566-97 (2004) "Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying". Rule 316, Section 301.2(c)(4) provides owners/operators the opportunity to submit an alternative compliance demonstration equivalent to the soil moisture test requirements. Rule 316, Section 301.2(c)(3) also provides owners/operators with an opportunity to submit a demonstration to reduce the number of sampling points and the frequency of sampling following the initial sampling regime described in the rule. Since alternative control measures were considered for all rule changes, all requirements of A.R.S. § 41-1055 have been addressed.

**Comment #8:** ARPA commented that: "The proposed revisions expand the definition of a 'nonmetallic mineral processing plant, and therefore applicability of Rule 316' to include any facility that involves 'raw material storage and distribution.' Because the Department has not provided any justification for expanding applicability of the rule, ARPA requests that the Department either withdraw the proposed revision or provide the necessary demonstration that the expansion is necessary in accordance with A.R.S. § 49-112(A)."

**Response # 8:** The revisions to Rule 316, Section 235 make the rule consistent with the MCAQD's current interpretation and application of the rule.

**Comment #9:** ARPA commented that: "Washed sand and aggregate does not contain silt and therefore should be expressly excluded from the definition of "open storage pile" without requiring facilities to repeatedly show that the silt content of the material is less than 5% by conducting testing in accordance with ASTM Method C136-06."

**Response #9:** A pile of bulk material with less than 5% silt content does not meet the definition of an "open storage pile" under Rule 316, Section 236. The Department would accept results of QA/QC tests performed for product specification documentation on washed sand and aggregate that remains uncontaminated.

**Comment #10:** ARPA commented that: "The Department has inappropriately proposed to expand the requirement to install a cohesive hard surface to essentially all areas of a facility without justification. Furthermore, it is unclear when and how it would be determined that an area would be considered permanent (e.g., after the area remained in place 180 days) and what stabilization measures would be sufficient in the interim (e.g., application of water). ARPA therefore requests that the proposed definition of 'permanent areas of the facility' either be withdrawn or revised accordingly in light of ARPA's comments on Section 307.4(d)."

**Response #10:** The definition of "permanent areas of a facility" under Rule 316, Section 240 has been added to Rule 316 simply to clarify existing fugitive dust control requirements for on-site traffic under Rule 316, Section 307.4. by extension, this definition also clarifies existing fugitive dust control requirements for haul access roads "that are not in permanent areas of a facility." "Permanent areas of a facility" is explicitly defined in terms of the specific areas of a facility which will incur various forms of traffic over a specified duration of time (i.e., 180 days or more during a twelve month period). This list of specific areas was formerly provided in Rule 316, Section 307.4(a). For areas not meeting the definition under Rule 316, Section 240, vehicle traffic fugitive dust emissions must meet the requirements under Rule 316, Sections 303.3 and 307.2. The appropriate designation and identification of surfaces in the approved Dust Control Plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement. See also the responses to comments #24 and #26.

**Comment #11:** ARPA commented that: "Rather than expressly link the obligation to use watering systems to meet the applicable performance standards (i.e., the process emission limitations in Section 301.1), for which compliance is determined via the test methods already specified in Section 502, the proposed revisions require that water systems be operated continuously to meet an arbitrarily established 4% minimum moisture content standard for all types of crushing and screening facilities. The proposed revisions then 'pile on' additional requirements (e.g., up to twice daily moisture content testing requirements with associated recordkeeping) to ensure compliance with the new moisture content standard. ARPA objects to this approach."

**Response #11:** The performance standards in Rule 316, Section 301.1 are derived from the NSPS. However, the NSPS no longer represents BACM/MSM. The revisions for mandatory control options under Rule 316, Section 301.2 require owner/operators "to continuously maintain a 4% minimum moisture content" or alternative moisture content approved by

the Control Officer. The rule changes do not require continuous operation of watering systems only that the systems be continually operable. In response to a deficiencies in the present Rule 316 noted by the EPA, the 4% minimum moisture requirement was determined to represent BACM/MSM based on review of "in place, in practice" control measures utilized in other jurisdictions. Best Available Control Technology (BACT) analyses submitted in Clark County over a period of more than 10 years frequently determined that a moisture content standard of 4% represented BACT. In Rule 316, Section 301.2(c)(4), however, the Department has included a provision for submission of an alternative compliance demonstration plan that justifies a minimum moisture content other than 4%. Based on information from Clark County and background information collected from AP-42 Chapter 13.2.4.3, Aggregate Handling and Storage Piles: Predictive Emission Factor Equations-Equation (1) dated November 2006, the MCAQD estimates that increasing the moisture content from 1.5% to 4% increases the control efficiency from 81.5% to 95.3%. As a result, maintaining a 4% minimum moisture content becomes the performance standard necessary to implement BACM/MSM and obtain the associated emission reductions. The moisture testing and recordkeeping requirements are the only way to ensure compliance with the moisture content standard and thus obtain required MSM emissions reductions for the Maricopa County serious PM<sub>10</sub> nonattainment area.

**Comment #12:** ARPA commented that: "Moisture content measurements are currently included in air quality regulations for Clark County, Nevada and so these are MSM, however the Clark County rules do not specify a default value for minimum moisture content. Rather, Clark County Section 34.4.3 suggests that minimum moisture contents are established on a case-by-case basis for each facility's permit. Therefore, the value of 4% as a minimum limit is not justified on an MSM basis."

**Response #12:** While it is true that Clark County's air quality rules do not specify a specific minimum moisture content standard, Best Available Control Technology (BACT) analyses submitted in Clark County over a period of more than 10 years frequently result in a moisture content standard of 4%. Consistent with this finding, the 4% minimum moisture content was selected as representing BACM/MSM for the Maricopa County serious nonattainment area. To implement this level of control for all sources in Maricopa County regardless of site-specific conditions but without having to conduct a case-by-case analysis, the MCAQD has determined that maintaining a minimum soil moisture content of 4% represents an effective level of BACM/MSM. However, since there are site-specific conditions that may justify a different minimum moisture content, the MCAQD has also provided for the submittal of a site-specific justification for an alternative minimum soil moisture content to be approved by the Control Officer and the Administrator. Examples of site-specific factors include the following: (1) if a process includes a fine mesh screen, mined products that contain significant silts or clays may blind the screen leading to downtime and added emissions from startup/shutdown and (2) an asphalt batch plant may demonstrate that more emissions are produced by the fuel burned to dry materials prior to batching than are reduced by increasing the moisture content to increase control efficiency. The rule also provides that an owner/operator may submit documentation demonstrating that an alternative moisture testing protocol correlates with the reference test method and protocol or demonstrating that reducing the number of sampling points and/or reducing sampling frequency correlates with the protocol described in the rule.

**Comment #13:** ARPA commented that: "Current AP-42 guidelines for conveyor transfer points list an uncontrolled emission factor of 0.00100 lbs/ton, based on a study group of facilities operating at moisture contents ranging from 0.21% and 1.3% and a controlled emission factor of 0.000046 lbs/ton, based on a study group operating at moisture contents ranging from 0.55% to 2.88%. These emission factors are far different than the corresponding values of 0.039 lbs/ton and 0.0041 lbs/ton (at 1.5% moisture content) that are referenced in the Clark County study " PM<sub>10</sub> Emission Control Study for Sand and Gravel Facilities". Clearly the predictive equation utilized in the study has been determined to be ineffective by the EPA, and Maricopa County should not rely upon it as a scientific basis for 4% moisture requirement."

**Response #13:** AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM; thus, the emission factors with the associated moisture contents do not represent BACT/BACM. The majority of source tests cited in the AP-42 background information came from tests performed in the southeastern United States in climates that are distinctly different from the arid southwest. Further, the cited Clark County study was not used as the basis for selection of the 4% minimum moisture content standard. While the AP-42 factors have been updated since the Clark County study cited above, the effect of increasing the moisture content is the critical factor as Maricopa County now uses the updated AP-42 emission factors. As stated above, BACT analyses submitted in Clark County over a period of more than 10 years indicate that a moisture content of 4% represented BACT. It is appropriate to use AP-42 uncontrolled emission factors, but jurisdictions such as Clark County have developed their own control efficiency benchmarks. Since Clark County is an arid environment similar to Maricopa County, the 4% minimum moisture content standard was selected as representing BACM/MSM for the Maricopa County serious nonattainment area. Based on information from Clark County and background information collected from AP-42

Chapter 13.2.4.3, Aggregate Handling and Storage Piles: Predictive Emission Factor Equations-Equation (1) dated November 2006, the MCAQD estimates that increasing the moisture content from 1.5% to 4% increases the control efficiency from 81.5% to 95.3%. As a result, maintaining a 4% minimum moisture content becomes the performance standard necessary to implement BACM/MSM and obtain the associated emission reductions. The moisture testing and recordkeeping requirements are the only way to ensure compliance with the moisture content standard and thus obtain required MSM emissions reductions for the Maricopa County serious PM<sub>10</sub> nonattainment area.

**Comment #14:** ARPA commented that: “A 4% minimum moisture content is by documentation unsupportable and ARPA requests that it be removed from the language. ARPA proposes the following revised language to implement the previously stated intent of the current rulemaking: ‘For crushing and screening facilities, the owner and/or operator of a nonmetallic mineral processing plant shall implement and operate all of the following process controls as necessary to comply with Section 301.1...’”

**Response #14:** The performance standards in Rule 316, Section 301.1 are derived from the NSPS. However, the NSPS no longer represents BACM/MSM. As stated above, BACT analyses submitted in Clark County over a period of more than 10 years indicate that a minimum moisture content of 4% represented BACT. Since Clark County is an arid environment similar to Maricopa County, the 4% minimum moisture content standard was selected as representing BACM/MSM for the Maricopa County serious nonattainment area.

**Comment #15:** ARPA commented that: “ARPA would support adoption of a minimum moisture content of 2%. This value is slightly higher than mid-range of 0.55% to 2.88% currently listed in AP-42 for the controlled emission factor. However, this proposal is put-forth with certain conditions pertaining to imposition of reasonable sampling requirements and consequences for occasional excursions from the minimum moisture requirement.”

**Response #15:** AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM; thus, the emission factors with the associated moisture contents do not represent BACT/BACM. The majority of source tests cited in the AP-42 background information came from tests performed in the southeastern United States in climates that are distinctly different from the arid southwest. Since Clark County is an arid environment similar to Maricopa County, the regulatory determinations of BACT in Clark County over more than a 10 year period is the only reliable source for determining MSM in the serious nonattainment area. BACT has been defined for nonmetallic mineral processing facilities in Clark County as ranging from 4% minimum moisture content.

**Comment #16:** ARPA commented that: “Maricopa County is proposing that crushing and screening facilities must collect samples for moisture testing at all crushers, shaker screens, and material transfer points. There is no technical justification that moisture testing should be required at every transfer point. The rule would impose an undue burden on the industry where over a dozen transfer points is common. Frequently, these transfer points, particularly conveyor belts, are permanently mounted well above six feet making access difficult. Sampling at each point would require installing permanent ladders or similar access, requiring additional MSHA regulatory exposure and safety accommodations. ARPA suggests a fair compromise based on the AP-42 language would be to require sampling at three locations: the entry point, the final stockpiles, and the outlet of the crusher.”

**Response #16:** AP-42 simply measured what was emitted by representative plants. AP-42 did not restrict source tests to only plants that had implemented BACT/BACM. The moisture testing and recordkeeping requirements are nearly identical to those successfully implemented as BACT in Clark County, Nevada for nonmetallic mineral processing facilities. In addition, owner/operators do have the option to reduce the number of sampling points by meeting the requirements outlined in Rule 316, Section 502.3(d). Since these requirements have been promulgated and are currently being enforced in another similar jurisdiction, the rule changes are not expected to impose an undue burden on the industry within Maricopa County.

**Comment #17:** ARPA commented that: “ARPA notes that the proposed rule does not identify any response plan or consequences for those situations where required sampling indicates that actual moisture contents are less than the specified minimum moisture content. This situation causes a great deal of concern among ARPA members because of the potential for the MCAQD to issue notices of violation (NOVs) for the full period of time between an unacceptable sampling result and the subsequent next acceptable sampling result. This is especially troubling when considering that minor excursions from any given value for minimum moisture content would not necessarily result in increased emissions or opacity readings that would violate an applicable requirement. ARPA requests that the proposed rule be revised to state that excursions from the minimum moisture content would solely indicate that additional water or other corrective actions must be applied and documented. Failure to take such corrective actions could result in an NOV; sampling results in and of themselves that are less than the specified minimum moisture content would not result in an

NOV. Under Section 312.1, owner/operators are required to comply at all times with the minimum moisture standard. Therefore, it is clear that immediate corrective action must be taken if consecutive moisture tests are below 4%.”

**Response #17:** Under Rule 316, Section 301.2(c), owner/operators are required to comply at all times with the minimum moisture standard. Therefore, it is clear that immediate corrective action must be taken if a moisture test is below 4%. However, as indicated in Rule 316, Section 301.2(c)(3)(d), the MCAQD does not intend to issue an NOV for a single test result below the designated moisture content if the facility remains in compliance with the other standards in Rule 316, Section 301.1. If corrective actions are immediately implemented after failing to meet the minimum moisture content standard, compliance should be demonstrated through subsequent moisture tests.

**Comment #18:** ARPA commented that: “Because it is impossible to maintain any control equipment ‘in calibration’, ‘in good working order’, and ‘in operation’ at all times, the proposed requirement is unachievable. As drafted, the proposed revision does not allow for inevitable periods of downtime. Furthermore, it is not feasible or necessary for certain control equipment to be operated at all times. ARPA therefore proposes the following language to replace the first sentence: ‘An owner and/or operator of a facility shall, to the extent practicable, install, operate, and maintain control equipment required by this rule in a manner consistent with good air pollution control practices for complying with the applicable process emission limitations of this rule.’”

**Response #18:** In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, “at all times” appeared as new text in the first sentence. In this draft Notice of Final Rulemaking, to delete “at all times” from the first sentence of final draft Rule 316, Section 305. The operation of control equipment is described in the appropriate standards sections in Rule 316. However, downtime associated with malfunctions, emergencies, and scheduled maintenance is addressed in Maricopa County Air Pollution Control Regulations Rule 130 and Rule 140.

**Comment #19:** ARPA commented that: “Proposed Rule 316, Section 305.2(b) should be withdrawn, as the requirement to comply with O&M plans is already addressed by Section 305.4 – O&M Plan Responsibility.”

**Response #19:** New O&M Plan requirements are included in Rule 316, Section 305.2, which are specific to fugitive dust control measures. These requirements are not to be confused with the existing O&M Plan requirements in current Rule 316, Section 305, which are specific to an Emission Control System (ECS).

**Comment #20:** ARPA commented that: “Because the Department has not demonstrated that achieving continuous compliance with the Section 306.2 limitation is technically or economically feasible or necessary as required under A.R.S. § 49-112(A), ARPA requests that the proposed removal of the wind event exclusion for Section 306.2 be withdrawn.”

**Response #20:** In recognition of the challenges presented by wind events, the MCAQD has put Rule 316, Section 306.2 back into Rule 316, Section 306.3. In the final draft of Rule 316 that was published in the Notice of Proposed Rulemaking on November 9, 2007, “and Section 306.2” was proposed to be deleted in the introductory sentence. In this Notice of Final Rulemaking, “and Section 306.2” was not deleted in the introductory sentence. In final draft Rule 316, Section 306.3 remains un-changed and reads as follows: “Wind Event: The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meet the following conditions.” Final draft Rule 316, Section 306.3 remains un-changed because the 20% opacity limitation and the visible emission limitation beyond the property line do not apply during a wind event, if the owner and/or operator of a facility meets the specified conditions.

**Comment #21:** ARPA commented that: “Because Rule 316 does not define the terms ‘when no activity is occurring’ or ‘temporarily or permanently inactive’, the Department’s clarification document was intended to make clear that brief pauses of ongoing work activities (e.g., restroom breaks, downtime due to maintenance or repair) do not immediately trigger the requirement to instantaneously comply with the Section 306.5 stabilization standards. Conversely, the clarification document also states that ‘it is clear that the stabilization standards are applicable whenever there is more than a brief halt in activity.’ Accordingly, in no way did the clarification document suggest that the areas would go uncontrolled for lengthy periods of time. Indeed, Rule 316 provides extensive control measures for active operations.”

**Response #21:** Owners/Operators are responsible for complying with all standards at all times. If controls are being implemented, the surfaces do not instantaneously become de-stabilized and should be able to comply with the stabilization standards for brief periods of time. For example, damp materials do not fall through a sieve so the surface would be able to comply with the stabilization standards.

**Comment #22:** ARPA commented that: “Because each of the referenced sections of the rule (Section 301 and 301.7 through 307.9) already require compliance in and of themselves, the proposed revision is un-necessary and should be withdrawn. Otherwise, any non-compliance with one of the repeated sections of the rule in Section 307 could

inappropriately be considered twice for enforcement purposes. Were this the intent or result, ARPA would see this as highly unethical.”

**Response #22:** Emissions limitations and control requirements defined for crushing and screening operations covered under Rule 316, Section 301 do not cover all of the possible ancillary activities capable of producing fugitive dust emissions. Crushing and screening activities not explicitly defined in Rule 316, Section 301 are included in Rule 316, Section 307.

**Comment #23:** ARPA commented that: “Because Section 307.1 already requires that the owner and/or operator of a facility implement the specified fugitive control measures, as applicable, to comply with Section 306.1, Section 306.2, and Section 306.5 of the rule, ARPA supports the proposed removal of the references to these requirements again for each control measure specified in Section 307.1(b).”

**Response #23:** All references to Rule 316, Sections 306.1 and 306.5 have been removed from Rule 316, Section 307.1(b).

**Comment #24:** ARPA commented that: “For purposes of consistency with proposed revisions to Section 307.1, ARPA requests that the Department remove ‘in compliance with Section 306.4 and/or Section 306.5 of this rule’ in the second sentence of the first paragraph of Section 307.2 as part of the proposed revisions. Also, because the proposed revisions limit the scope of this requirement to areas ‘other than the areas identified in Section 307.3 and 307.4 of this rule’ and because proposed Section 307.4(d) has been expanded to include essentially all areas of a facility, the option to apply and maintain water under Section 307.2 has been removed. The Department has provided no justification for the proposed revision and therefore the proposed limitation of Section 307.2 applicability to areas other than those identified in Section 307.4(d) should be withdrawn.”

**Response #24:** All references to Rule 316, Sections 306.4 and 306.5 have been removed from Rule 316, Section 307.1(b). However, the definition of “permanent areas of a facility” lists the same surfaces that were previously listed in Rule 316, Section 307.4.(a). Process areas for stockpiles, mining equipment, and conveyors are not similar to areas listed in the definition of “permanent areas of a facility.” Further, the definition of “haul/access road” in Rule 316, Section 227 specifically notes that, “For the purpose of this definition, haul/access roads are not in permanent areas of a facility.” It is the Department’s understanding that storage piles shrink, expand, and/or may be moved such that support equipment servicing the batch plants will not be traveling on permanent areas of the facility similar to the haul/access roads from the quarry or pit. The support equipment paths that do not overlap those routes used by the other vehicles, such as batch trucks, material delivery trucks, employee vehicles, or visitor vehicles for example, can still be maintained with water as described in Rule 316, Section 307.2 consistent with prior versions of the rule. The appropriate designation and identification of surfaces in the approved dust control plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement. See also the responses to comments #10 and #26.

**Comment #25:** ARPA commented that: “ARPA supports the proposed deletion of ‘in compliance with Section 306.4 of this rule’ with ‘as necessary to comply’ in the first sentence of Section 307.3(a).”

**Response #25:** The phrase "in compliance with Section 306.4 of this rule" has been deleted from Rule 316, Section 307.3(a).

**Comment #26:** ARPA commented that: “It is inappropriate for the Department to base the imposition of new requirements in the current rulemaking on federal BACM/MSM requirements. The Department has not conducted the necessary technical and economic feasibility analysis for implementing the proposed paving and cohesive hard surface requirements for all "permanent areas of a facility" in Section 307.4(d). The Department has not demonstrated any emission reductions whatsoever from precluding the use of water as a control measure for areas that only incidentally may receive traffic or those traffic areas that Rule 316 expressly allows the use of water as a control option (i.e., existing Sections 307.2 and 307.3). The proposed revisions to Section 307.4(d) do not meet federal BACM/MSM requirements, are invalid under Arizona law, and therefore should be withdrawn from the proposed rulemaking.”

**Response #26:** Under Section 188(e) of the CAA pertaining to the EPA's authority to extend the attainment date for a serious nonattainment area beyond the specified statutory date, Maricopa County must demonstrate to the EPA's satisfaction that "the plan for that area includes the most stringent measures that are included in the implementation plan of any State or achieved in any State, and can feasibly be implemented in the area." The requirement for paving or the installation of a cohesive hard surfaces on "permanent areas of a facility" under Rule 316, Section 307.4 are clarifications to the existing rule provisions. These clarifications address concerns raised by ARPA during litigation, address clarifications recommended by the EPA, and are consistent with Rule 1157 in South Coast Air Quality Management District (SCAQMD). Since the rule requirements have been promulgated and are currently being enforced in another

jurisdiction, credible evidence exists that these requirements can feasibly be implemented in the Maricopa County serious nonattainment area. Furthermore, the rule change complies with commitments made in the Five Percent Plan for PM<sub>10</sub> and is consistent with new requirements adopted by the Arizona State Legislature in SB1552, particularly dustproof paving for parking, maneuvering, ingress and egress areas. Further, the rule language only requires that traffic area portions of the permanent areas of the facility be paved or covered with cohesive hard surfaces. The examples listed in the definition of “permanent areas of the facility” receive more than incidental traffic. An owner/operator can limit the amount of surface treatment by designating specific travel routes and parking areas, training site personnel, and/or posting signs. As noted in the responses to comments #10 and #24, watering is still allowed under Rule 316, Sections 307.2 and 307.3. The appropriate designation and identification of surfaces in the approved Dust Control Plan should clarify for both the facility and the MCAQD compliance personnel which surfaces are subject to which requirement.

**Comment #27:** ARPA commented that: “Because ‘all’ of the requirements in Rule 316 do not apply during the construction of pads for processing equipment (e.g., wheel washers), ARPA requests that the Department withdraw the proposed ‘so as to meet all of the requirements in this rule’ language. In the alternative, the Department could replace this proposed language with ‘as necessary to meet applicable requirements in this rule’ to more appropriately link the obligation to implement control measures to meet applicable Rule 316 requirements.”

**Response #27:** The MCAQD concurs and will insert the word “applicable” to Rule 316, Section 307.7 to read: “Pad Construction for Processing Equipment: The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.”

**Comment #28:** ARPA commented that: “It is inappropriate for the Department to base the imposition of new requirements in the current rulemaking on federal BACM/MSM requirements. The Department has not conducted the necessary technical and economic feasibility analysis for implementing the proposed revisions to expand applicability (i.e., facilities with 5 acres or more of disturbed surface area subject to a permit) and scope of the fugitive dust control technician requirements (i.e., requiring a technician to be on-site at all times). The Department has no basis to justify the increased burdens and costs that facilities must bear to comply with the expansion of fugitive dust technician requirements. Any perceived “enhancement” of compliance with Rule 316 does not justify the ‘piling on’ of these additional requirements with no demonstrable benefit. Accordingly, the proposed revisions should be withdrawn from the proposed rulemaking.”

**Response #28:** The revisions to expand applicability to facilities "with 5 acres or more of disturbed surface area subject to a permit" are required under Senate Bill 1552 revisions to A.R.S. § 49-474.05.

**Comment #29:** ARPA commented that: “ARPA requests that the proposed soil moisture content documentation in Section 311.2(a) and (b) be withdrawn. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional reporting requirements.”

**Response #29:** The EPA determined that the BACM/MSM requirements of the previous version of the rule were deficient compared with more stringent requirements successfully implemented in other similar jurisdictions. In response to this deficiency, Maricopa County incorporated soil moisture testing and recordkeeping requirements to ensure that MSM is applied to applicable facilities in the Maricopa County PM<sub>10</sub> nonattainment area. As stated above, the 4% minimum moisture content represents BACM/MSM as required to address deficiencies delineated by the EPA. The response to comment #12 explains the choice of 4% moisture content and the option for submitting an alternative compliance demonstration plan that justifies a minimum moisture content other than 4%. Further, the requirements in Rule 316, Sections 311.2(a) and (b) are not reporting requirements. They are requirements for the contents of the Dust Control Plan that reflects the site-specific conditions at each facility given the process and the composition of the material being processed.

**Comment #30:** ARPA commented that: “Because each of the enumerated sections of the rule under proposed Section 312 already requires compliance in and of themselves, proposed Section 312 is un-necessary and should be withdrawn in its entirety. Otherwise, any non-compliance with one of the sections of the rule repeated in Section 312 could inappropriately be considered twice for enforcement purposes.”

**Response #30:** Based on comments received during the enforcement process, permittees find it difficult to keep track of all applicable requirements. Thus, the MCAQD added a General Requirements section (Rule 316, Section 312) that includes an extensive list of standards, in order to provide a single, easily locatable summary list of the various requirements addressed in more detail throughout Rule 316. The MCAQD will not be citing facilities under Rule 316, Section 312, as the section is designed merely to assist the regulated community. Clark County provides a similar list in the agency’s Rule 94.

**Comment #31:** ARPA commented that: “The proposed revisions are unclear as to how and when the newly amended provisions of the rule would become effective upon the Control Officer's final action on revised O&M and dust control plans. The effectiveness of the rule should not be linked to the Control Officer's action on these revised plans, because it is beyond the control of regulated entities. ARPA requests that the Department clarify that effectiveness of the newly amended provisions relating to O&M and dust control plans is three months after rule adoption to allow preparation of revised plans and that Control Officer disapproval does not affect compliance with the O&M and dust control plan requirements under Rule 316. ARPA is concerned that proposed Section 401.2(d) could be interpreted as requiring the shutdown of an existing facility operation until the Control Officer approves a Dust Control Plan revision/update. ARPA therefore requests that the Department clarify its intent or withdraw proposed Section 401.2(d).”

**Response #31:** The MCAQD concurs that addressing due dates for submission of O&M Plans and Dust Control Plans in Rule 316, Section 401 would enhance clarity. In addition, the MCAQD also recognizes that affected facilities under the rule will need to construct the infrastructure required to implement the requirements under Rule 316, Section 301.2(c). Accordingly, the following changes have been made to Rule 316, Section 401:

- Changed Section 401 to read as follows: "The newly amended provisions of this rule shall become effective upon adoption of this rule except as follows:"
- Added a new Section 401.1 to read as follows: “Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.”
- Re-numbered Section 401.1 to Section 401.2 and revised the re-numbered Section 401.2(a) to read: "The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008".
- Re-numbered Section 401.2 to Section 401.3 and revised the re-numbered Section 401.3(a) to read: "The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.”
- Re-numbered Section 401.3 to 401.4 and Section 401.4 to 401.5.

**Comment #32:** ARPA commented that: “The proposed recordkeeping requirements for soil moisture content in Section 501.2(c) should be withdrawn in their entirety. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional reporting requirements.”

**Response #32:** On July 9, 2007, the EPA notified Maricopa County that it had identified deficiencies and clarifications in the June 2005 Rule 316 revisions. The EPA noted that Maricopa County had not identified BACM/MSM as required for serious PM<sub>10</sub> nonattainment areas. The EPA noted that other jurisdictions require nonmetallic mineral processing facilities to establish specific minimum soil moisture content standards and testing/recordkeeping requirements. The recordkeeping requirements are the only mechanism to ensure compliance with the 4% minimum moisture content, thus ensuring BACM/MSM emission reductions are achieved in the serious nonattainment area.

**Comment #33:** ARPA commented that: “The increased inspection and recordkeeping requirements are another example of ‘piling on’ additional requirements without regard to whether a facility is in compliance with applicable process emission limitations. How a facility ensures compliance with the process emission limitations (e.g., inspection and maintenance practices, standard operating procedures) should be left to facility management and not subject to oversight by the Department and inclusion as independently enforceable requirements in Rule 316. This seemingly endless expansion of requirements un-necessarily subjects facilities to increased costs and enforcement exposure without any demonstrable environmental benefit. ARPA therefore requests that the proposed requirements in Section 501.3(b) be withdrawn.”

**Response #33:** To address a deficiency in Rule 316, the rule has been changed to include new O&M Plan requirements under Rule 316, Section 305.2. The new O&M Plan requirements are specific to fugitive dust control measures. Requirements for O&M Plan records under Rule 316, Section 501.3 only addressed Emission Control System (ECS) monitoring devices and needed to be updated to ensure proper recordkeeping for fugitive dust control measure O&M Plans. The O&M plan requirements and associated recordkeeping are standard monitoring and recordkeeping requirements for BACM/MSM-level control technology. See responses to comments #6 and #11 concerning the quantification of the environmental benefits anticipated to result from this additional level of controls.

**Comment #34:** ARPA commented that: “ARPA strongly objects to the proposed replacement of EPA Reference Method 9 with EPA Reference Method 203B for determining visible emissions for the opacity standards described in Sections 301, 302, and 303. Because the data reduction procedures in EPA Reference Method 203B are substantially different than those in EPA Reference Method 9, the proposed revision makes the referenced opacity standards more stringent by changing the method for determining compliance with those standards. Because the Department has provided no justification for increasing the stringency of the referenced opacity standards, ARPA requests that the Department either

withdraw the propose revision or provide the necessary demonstration that the increased stringency in opacity standards is necessary in accordance with A.R.S. § 49-112(A).”

**Response #34:** The revision to the data reduction methodology associated with Maricopa County's general 20% opacity standard to EPA Method 203B is intended to further efforts to increase compliance. This form of data reduction for the 20% opacity standard limits the number of excursions over the 20% level of the standard resulting in more consistent compliance with the existing standard. A rule effectiveness study conducted in early 2007 by the MCAQD found that compliance with the existing rules is lower than anticipated. The commenter also states that the revisions to the data reduction methodology make the 20% opacity standard substantially more stringent than the current rule. The Department disagrees and believes that the comment overstates the stringency of Method 203B. The revisions to the data reduction methodology require that owners/operators more closely monitor their activities, processes, and controls to ensure proper operation at all times. Areas that successfully met the December 31, 2006 PM<sub>10</sub> attainment – including Clark County, Nevada; South Coast Air Quality Management District, California; San Joaquin Unified Air Pollution Control District, California; and six out of 14 western states that are members of the Western Regional Air Partnership (WRAP) – all administer rules that include the data reduction methodology in Rule 316. These areas contain sources similar to sources in Maricopa County and such similar sources comply with the standard. Further, if Method 203B were substantially more stringent than Method 9, then the Department would have been required to include the measure in the Most Stringent Measure (MSM) demonstration contained in the MAG Serious Area PM<sub>10</sub> Nonattainment Area Plan and Attainment Date Extension Request. The technical analysis associated with the Salt River Area PM<sub>10</sub> SIP revision submitted in 2005 determined that stationary sources contribute significantly to exceedances of the 24-hour PM<sub>10</sub> standard that occur under stagnant conditions. That analysis characterized the specific types, number, and size of sources present in the modeling domain; land use; the topography of the area; and the design day specific meteorological conditions present at the monitor recording the exceedance. Attainment demonstrations for nonattainment areas required under the Clean Air Act must to the greatest extent practical depict the actual conditions present that cause exceedances in the nonattainment area. Therefore, the nonattainment area plans for the Phoenix Nonattainment Area for PM<sub>10</sub> are required under the Clean Air Act, in effect, to address actual local conditions that are unique to a geographical area. Further, the EPA's latest particulate matter implementation rule, Clean Air Fine Particle Implementation Rule (72 FR 20586, April 25, 2007), identifies “revised opacity standard” in a list of possible stationary sources measures. The rule also lists improved monitoring as a control measure. The EPA notes that improved monitoring control measures would require facilities to pay more attention to the operations of add-on air pollution control devices, work practices, and other control measure activities. The additional attention will reduce periods during which control devices and other control measures do not operate as intended or required. The result would be increased emissions reductions from implementing existing and new rules. The MCAQD disagrees that there is no coincidence between PM<sub>10</sub> emissions and opacity. Within an individual source, a change in opacity indicates a change in PM emissions. It is not necessary to demonstrate a correlation between mass emissions and opacity across all source categories, when a goal of the standard is to demonstrate compliance with BACT, BACM, and MSM levels of control. Opacity has also long been used as an indicator of visible particulate pollution. In the discussion on improved monitoring control measures in the proposal for the fine particle implementation rule referenced above, the EPA states, “...visible emissions and the opacity of visible emissions are indicators of a change in PM emissions levels...” In the EPA's fact sheet on the rule finalizing Methods 203A, B, and C, the EPA states, “Evaluating the opacity of emissions serves as a surrogate for particulate emissions. Numerous state and federal regulations require that opacity of emissions be measured or monitored.”

**Comment #35:** ARPA commented that: “The proposed testing requirements for soil moisture content in Section 502.3 should be withdrawn in their entirety. However, if Maricopa County accepts the proposed compromise position relative to a 2% minimum moisture content, ARPA would accept the additional testing requirements.”

**Response #35:** As stated above, the EPA determined that the BACM/MSM requirements of the revision were deficient based on more stringent requirements successfully implemented in other jurisdictions. In response to this deficiency, Maricopa County incorporated soil moisture testing and recordkeeping requirements modeled after Clark County procedures to ensure that MSM is applied to applicable facilities in the Maricopa County PM<sub>10</sub> nonattainment area. As noted in the response to comment #12, the 4% minimum moisture content standard and testing requirements represent MSM as required to address deficiencies delineated by the EPA.

**Comment #36:** The Joint Environmental Task Force commented that: “End of Working - Does all work stop at 8:00 p.m.?”

**Response #36:** Rule 316, Section 220 defines "end of work day" to ensure that trackout is cleaned up at least once per day at applicable facilities, which may operate 24 hours per day.

**Comment #37:** Open Storage Pile: The sentence's construction is improper. Change to: "... which at any one point...and covers..." A point does not have a total surface are of 150 square feet.

**Response #37:** The MCAQD agrees that the sentence in Rule 316, Section 236 needs to be reorganized and has revised the sentence by listing the surface area criteria before the height criteria. The word "covers" was removed to clarity that the total pile surface area, not the area of the pile's footprint on the ground, is the relevant criterion being addressed.

**Comment #38:** The Joint Environmental Task Force commented that: "Process Emission Limitations – Crushing and screening opacity measurements are required here to be done in accordance with Appendix C Method. The method is less stringent than the EPA Method 203B. The County cannot use requirements that are less stringent than those of the EPA. Change this."

**Response #38:** The only process emission limitation required to be performed in accordance with Appendix C is Rule 316, Section 301.1(e) that applies to truck dumping. The plume generated by truck dumping does not last 15 seconds. Appendix C, Section 3 specifies that two readings shall be taken for each discrete truck dumping with a five second interval between the two readings. A total of 12 consecutive readings are necessary. Appendix C, Section 3 is not less stringent than Method 203B and is the federally approved method specifically modified for the type of activity specified in Rule 316, Section 301.1(e).

**Comment #39:** The Joint Environmental Task Force commented that: "Opacity Limitations - Same comment as in item 3 above (see Section 301.1 comment for fugitive dust emission limitations)."

**Response #39:** See the response to comment #38.

**Comment #40:** The Joint Environmental Task Force commented that: "Opacity Observations (Section 502) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required."

**Response #40:** Appendix C, Section 3 is not less stringent that Method 203B and is the federally approved method specifically modified for the truck dumping opacity standard specified in Rule 316, Section 301.1(e). The MCAQD agrees that Rule 316, Section 502 should be clarified. The text, "(excluding Section 301.1(e))" has been added to all references to Rule 316, Section 301 throughout Rule 316, Sections 502 and 502.2.

**Comment #41:** The Joint Environmental Task Force commented that: "Opacity Observations (Section 502.2) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required."

**Response #41:** See the response to comment #40.

**Comment #42:** The Joint Environmental Task Force commented that: "Opacity Observations (Section 502.3) - If this paragraph supersedes other sections related to opacity measurements, it should be so stated in those other sections. It should also include Section 306.1 and any other section where opacity measurements are required."

**Response #42:** See the response to comment #40.

**14. Any other matters prescribed by the statute that are applicable to the specific department or to any specific rule or class of rules:**

Not applicable

**15. Incorporation by reference and their location in the rule:**

Incorporation by Reference	Location
EPA Method 9	Rule 316, Section 309.5
EPA Reference Methods 1–5	Rule 316, Section 502.1
EPA Reference Method 203B	Rule 316, Section 502.2
South Coast Air Quality Management	Rule 316, Section 506
Rule 1186 Certification Standards	
Appendix C – Fugitive Dust Test Methods	Rule 316, Section 301.1(e) Rule 316, Section 306.1 Rule 316, Section 306.3(c)(1)

	Rule 316, Section 306.3(c)(2)
	Rule 316, Section 306.3(c)(3)
	Rule 316, Section 306.4
	Rule 316, Section 306.5(b)
	Rule 316, Section 503
	Rule 316, Section 505
ASTM Method D2216-05	Rule 316, Section 504.1
ASTM Method D1557-02e1	Rule 316, Section 504.2

**16. Was this rule previously an emergency rule?**

No

**17. The full text of the rule follows:**

**REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 316**

**NONMETALLIC MINERAL PROCESSING**

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Adopted 07/06/93  
Revised 04/21/99  
Revised 06/08/05

**MARICOPA COUNTY**  
**AIR POLLUTION CONTROL REGULATIONS**  
**REGULATION III – CONTROL OF AIR CONTAMINANTS**  
**RULE 316**  
**NONMETALLIC MINERAL PROCESSING**

**SECTION 100 – GENERAL**

- 101 PURPOSE:** To limit the emission of particulate matter into the ambient air from any nonmetallic mineral processing plant and/or rock product processing plant.
- 102 APPLICABILITY:** The provisions of this rule shall apply to any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Source Performance Standards. In such case, the more stringent standard shall apply.

**SECTION 200 – DEFINITIONS:** See Rule 100 (General Provisions and Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

- 201 AFFECTED OPERATION** – An operation that processes nonmetallic minerals or that is related to such processing and process sources including, but not limited to, excavating, crushers, grinding mills, screening equipment, conveying systems, elevators, transfer points, bagging operations, storage bins, enclosed truck and railcar loading stations, and truck dumping.
- 202 AGGREGATE TRUCK** – Any truck with an open top used to transport the products of nonmetallic mineral processing plants and/or rock product processing plants.
- 203 APPROVED EMISSION CONTROL SYSTEM** – A system for reducing particulate 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.
- 204 AREA ACCESSIBLE TO THE PUBLIC** – Any retail parking lot or public roadway that is open to public travel primarily for the purposes unrelated to the dust-generating operation.
- 205 ASPHALTIC CONCRETE PLANT/ASPHALT PLANT** – Any facility used to manufacture asphaltic concrete by mixing graded aggregate and asphaltic cements.
- 206 BAGGING OPERATION** – The mechanical process by which bags are filled with nonmetallic minerals.
- 207 BATCH TRUCK** – Any truck that loads and transports products produced by batch.
- 208 BELT CONVEYOR** – A conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.
- 209 BERMS AND GUARD RAILS** – A pile or mound of material along an elevated roadway capable of moderating or limiting the force of a vehicle in order to impede the vehicle's passage over the bank of the roadway.
- 210 BULK MATERIAL** – Any material including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than two inches in length or diameter (i.e., aggregate base course (ABC)), dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that is capable of producing fugitive dust.
- 211 COHESIVE HARD SURFACE** – Any material including, but not limited to, pavement, recycled asphalt mixed with a binder, or a dust suppressant other than water applied and maintained as a roadway surface.
- 212 CONCRETE PLANT** – Any facility used to manufacture concrete by mixing water, aggregate, and cement.
- 213 CONVEYING SYSTEM** – A device for transporting materials from one piece of equipment or location to another location within a facility. Conveying systems include, but are not limited to, feeders, belt conveyers, bucket elevators and pressure control systems.

- 214 **CRUSHER** – A machine used to crush any nonmetallic minerals including, but not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.
- 215 **DISTURBED SURFACE AREA** – A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust.
- 216 **DRY MIX CONCRETE PLANT** – Any facility used to manufacture a mixture of aggregate and cements without the addition of water.
- 217 **DUST-GENERATING OPERATION** – Any activity capable of generating fugitive dust including, but not limited to, land clearing, earthmoving, weed abatement by discing or blading, excavating, construction, demolition, bulk material handling, storage and/or transporting operations, vehicle use and movement, the operation of any outdoor equipment, or unpaved parking lots. For the purpose of this rule, landscape maintenance and playing on or maintaining a field used for non-motorized sports shall not be considered a dust-generating operation. However, landscape maintenance shall not include grading, trenching, or any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.
- 218 **DUST SUPPRESSANT** – Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer, or any other dust palliative, which is not prohibited for ground surface application by the EPA or the Arizona Department of Environmental Quality (ADEQ), or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.
- 219 **ENCLOSED TRUCK OR RAILCAR LOADING STATION** – That portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.
- 220 **END OF WORK DAY** – The end of a working period that may include one or more work shifts ~~but not later than 8 pm.~~ If working 24 hours a day, the end of a working period shall be considered no later than 8 pm.
- 221 **FABRIC FILTER BAGHOUSE** – Tube-shaped filter bags: long small-diameter fabric tubes referred to as ‘bags’ arranged in parallel flow paths and designed to separate particles and flue gas.
- 222 **FREEBOARD** – The vertical distance between the top edge of a cargo container area and the highest point at which the bulk material contacts the sides, front, and back of a cargo container area.
- 223 **FUGITIVE DUST CONTROL MEASURE** – A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust.
- 224 **FUGITIVE DUST CONTROL TECHNICIAN** – A person with the authority to expeditiously employ sufficient fugitive dust control measures to ensure compliance with Rule 316 of these rules at an active operation.
- 225 **FUGITIVE DUST EMISSION** – Particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities.
- 226 **GRINDING MILL** – A machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.
- 227 **HAUL/ACCESS ROAD** – Any on-site unpaved road that is used by haul trucks to carry materials from the quarry or pit to different locations within the facility. For the purpose of this definition, haul/access roads are not in permanent areas of a facility.
- 228 **HAUL TRUCK** – Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.
- 229 **INFREQUENT OPERATIONS** – Operations that have State mine identification, approved reclamation plans and bonding as required by State Mining and Reclamation Act of 1975, and only operate on an average of 52 days per year over the past three years from June 8, 2005.
- 230 **MATERIAL DELIVERY TRUCK** – Any truck that loads and transports product to customers.
- 231 **MIXER TRUCK** – Any truck that mixes cement and other ingredients in a drum to produce concrete.
- 232 **MOTOR VEHICLE** – A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.
- 233 **NEW FACILITY** – A facility subject to this rule that has not been operated by such facility prior to June 8, 2005.
- 234 **NONMETALLIC MINERAL** – Any of the following minerals or any mixture of which the majority is any of the following minerals:
- 234.1 Crushed and broken stone, including limestone, dolomite, granite, rhyolite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell.
- 234.2 Sand and gravel.

- 234.3 Clay including kaolin, fireclay, bentonite, fuller's earth, ball clay, and common clay.
- 234.4 Rock salt.
- 234.5 Gypsum.
- 234.6 Sodium compounds including sodium carbonate, sodium chloride, and sodium sulfate.
- 234.7 Pumice.
- 234.8 Gilsonite.
- 234.9 Talc and pyrophyllite.
- 234.10 Boron including borax, kernite, and colemanite.
- 234.11 Barite.
- 234.12 Fluorspar.
- 234.13 Feldspar.
- 234.14 Diatomite.
- 234.15 Perlite.
- 234.16 Vermiculite.
- 234.17 Mica.
- 234.18 Kyanite including andalusite, sillimanite, topaz, and dumortierite.
- 234.19 Coal.
- 235 **NONMETALLIC MINERAL PROCESSING PLANT** – Any facility utilizing any combination of equipment or machinery that is used to mine, excavate, separate, combine, crush, or grind any nonmetallic mineral including, but not limited to, lime plants, coal fired power plants, steel mills, asphalt plants, concrete plants, Portland cement plants, raw material storage and distribution, and sand and gravel plants. Rock Product Processing Plants are included in this definition.
- 236 **OPEN STORAGE PILE** – Any accumulation of bulk material with a 5% or greater silt content ~~which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more~~ that has a total surface area of 150 square feet or more and that at any one point attains a height of three feet. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ~~ASTM Method C136-01~~ ASTM Method C136-06 or other equivalent method approved in writing by the Control Officer and the Administrator ~~of the Environmental Protection Agency (EPA)~~, that the silt content is less than 5%. For the purpose of this rule, the definition of open storage pile does not include berms and guard rails that are installed to comply with 30 Code of Federal Regulations (CFR) 56.93000.
- 237 **OVERBURDEN OPERATION** – An operation that removes and/or strips soil, rock, or other materials that lie above a natural nonmetallic mineral deposit and/or in between a natural nonmetallic mineral deposit.
- 238 **PARTICULATE MATTER EMISSIONS** – Any and all finely divided solid or liquid materials other than uncombined water released to the ambient air as measured by the applicable state and federal test methods.
- 239 **PAVE** – To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, rubberized asphalt, or recycled asphalt mixed with a binder).
- 240 **PERMANENT AREAS OF A FACILITY** – Areas that remain in-place for 180 days or more in 12 consecutive months. Permanent areas of a facility include the following areas: entrances, exits, parking areas, office areas, warehouse areas, maintenance areas (not including maintenance areas that are in the quarry or pit), concrete plant areas, asphaltic plant areas, and roads leading to and from such areas.
- 240241 **PORTLAND CEMENT PLANT** – Any facility that manufactures Portland Cement using either a wet or dry process.
- 241242 **PRESSURE CONTROL SYSTEM** – System in which loads are moved in the proper sequence, at the correct time, and at the desired speed through use of valves that control the direction of air flow, regulate actuator speed, and respond to changes in air pressure.
- 242243 **PROCESS** – One or more operations including those using equipment and technology in the production of goods or services or the control of by-products or waste.
- 243244 **PROCESS SOURCE** – The last operation of a process or a distinctly separate process which produces an air contaminant and which is not a pollution abatement operation.
- 244245 **PRODUCTION WORK SHIFT** – An eight hour operating period based on the 24-hour operating schedule.
- 245246 **PUBLIC ROADWAYS** – Any roadways that are open to public travel.
- 246247 **RETURNED PRODUCTS** – Leftover concrete or asphalt products that were not used at a job site and were returned to the facility.
- 247248 **RUMBLE GRATE** – A system where the vehicle is vibrated while traveling over grates with the purpose of removing dust and other debris.

- ~~248~~**249** **SCREENING OPERATION** – A device that separates material according to its size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).
- ~~249~~**250** **SILO** – An elevated storage container with or without a top that releases material thru the bottom.
- ~~250~~**251** **SILT** – Any aggregate material with a particle size less than 75 micrometers in diameter, which passes through a No. 200 sieve.
- ~~251~~**252** **SPILLAGE** – Any quantity of nonmetallic minerals/materials that spill while being processed or after having been processed by an affected operation, where such spilled nonmetallic minerals/ materials can generate or cause fugitive dust emissions.
- ~~252~~**253** **STACK EMISSIONS** – The particulate matter emissions that are released to the atmosphere from a capture system through a building vent, stack or other point source discharge.
- ~~253~~**254** **STAGING AREA** – A place where aggregate trucks and mixer trucks temporarily queue for their loading or unloading.
- ~~254~~**255** **TEMPORARY FACILITY** – A facility that occupies a designated site for not more than 180 days in a calendar year.
- ~~255~~**256** **TRACKOUT** – Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.
- ~~256~~**257** **TRACKOUT CONTROL DEVICE** – A gravel pad, grizzly, wheel washer, rumble grate, paved area, truck washer, or other equivalent trackout control device located at the point of intersection of an unpaved area and a paved area accessible to the public that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of aggregate trucks, haul trucks, and/or motor vehicles that traverse a facility.
- ~~257~~**258** **TRANSFER POINT** – A point in a conveying operation where nonmetallic mineral is transferred from or to a belt conveyor except for transfer to a stockpile.
- ~~258~~**259** **TRUCK DUMPING** – The unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include, but are not limited to, trucks, front end loaders, skip hoists, and railcars.
- ~~259~~**260** **TRUCK WASHER** – A system that is used to wash the entire surface and the tires of a truck.
- ~~260~~**261** **UNPAVED ROAD** – Any roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by Federal, State, county, municipal, or governmental or quasigovernmental agencies. Private unpaved roads are all other unpaved roadways not defined as public. ~~Unpaved internal roads are private unpaved roads within the facility's property boundary.~~
- ~~261~~**262** **VENT** – An opening through which there is mechanically or naturally induced air flow for the purpose of exhausting air carrying particulate matter.
- ~~262~~**263** **WHEEL WASHER** – A system that is capable of washing the entire circumference of each wheel of the vehicle.
- ~~263~~**264** **WIND EVENT** – When the 60-minute average wind speed is greater than 25 miles per hour.

**SECTION 300 – STANDARDS**

~~301~~ ~~NONMETALLIC MINERAL PROCESSING PLANTS – PROCESS EMISSION LIMITATIONS AND CONTROLS:~~ **CRUSHING AND SCREENING – PROCESS EMISSION LIMITATIONS AND CONTROLS:**

- ~~301.1~~ **301.1 Process Emission Limitations:** The owner and/or operator of a nonmetallic mineral processing plant shall not discharge or cause or allow to be discharged into the ambient air:
- ~~Stack emissions exceeding 7% opacity and containing more than 0.02 grains/dry standard cubic foot (gr/dscf) (50 mg/dscm) of particulate matter. Such stack emissions shall be vented to a properly sized fabric filter baghouse.~~
  - Fugitive dust emissions exceeding 7% opacity from any transfer point on a conveying system.
  - Fugitive dust emissions exceeding 15% opacity from any crusher.
  - Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping, ~~directly into any screening operation, feed hopper, or crusher.~~
  - Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher. Opacity observations to determine compliance with this section of this rule shall be conducted in accordance with the techniques specified in Appendix C – Fugitive Dust Test Methods of these rules.
- ~~301.2~~ **301.2 Controls:** ~~For crushing and screening facilities, the~~ The owner and/or operator of a nonmetallic mineral processing plant shall implement all of the following process controls described in Section 301.2(a),

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Section 301.2(b), and Section 301.2(c) of this rule or shall implement process controls described in Section 301.2(a) and Section 301.2(d) of this rule:

- a. Enclose sides of all shaker screens.
- b. Permanently mount watering systems (e.g., spray bars or an equivalent control) on: the points listed below for crushers, shaker screens, and material transfer points.
  - (1) Inlet and outlet of all crushers;
  - (2) Outlet of all shaker screens; and
  - (3) Outlet of all material transfer points, excluding wet plants.
- c. Operate watering systems (e.g., spray bars or an equivalent control) on the points listed in Section 301.2(b) of this rule for crushers, shaker screens, and material transfer points, excluding wet plants, to continuously maintain a 4% minimum moisture content.
  - (1) The watering systems shall be maintained in good operating condition, as verified by daily inspections.
  - (2) The owner and/or operator shall investigate and correct any problems before continuing and/or resuming operations.
  - (3) The owner and/or operator shall conduct soil moisture tests as follows:
    - (a) If the owner and/or operator is required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted twice daily in accordance with the test methods described in Section 502 of this rule.
    - (b) If the owner and/or operator is not required to have in place a Fugitive Dust Control Technician according to Section 309 of this rule, then soil moisture tests shall be conducted daily in accordance with the test methods described in Section 502 of this rule.
    - (c) If the owner and/or operator demonstrates that the 4% minimum moisture content is maintained for a minimum of four weeks, then soil moisture tests may be conducted weekly in accordance with the test methods described in Section 502 of this rule.
    - (d) If the owner and/or operator fails to comply with the opacity limitations described in Section 301.1, Section 306.1, or Section 306.2 of this rule and/or if two consecutive soil moisture tests are below 4%, then the owner and/or operator shall conduct soil moisture tests in accordance with Section 301.2(c)(3)(a) or Section 301.2(c)(3)(b) of this rule, as applicable.
    - (e) If the owner and/or operator of a facility complies with both of the following requirements, then the number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced:
      - (i) A soil moisture test is conducted in accordance with the test methods described in Section 502 of this rule at the primary crusher, which indicates that at least a 5% minimum moisture content is maintained; and
      - (ii) A demonstration that complies with Section 502.3(d) of this rule is submitted to and approved by the Control Officer and is complied with in accordance with Section 502.3(d) of this rule.
  - (4) The owner and/or operator may request in a permit application, with explanation, an alternative plan that justifies a minimum moisture content other than 4% and that justifies conducting fewer soil moisture tests as are required. In the request, the owner and/or operator shall submit to the Control Officer documentation regarding a minimum moisture content other than 4%, including, but not limited to, economics, emissions rates, water availability, and technical feasibility. In addition, the owner and/or operator shall demonstrate that the proposed alternative compliance demonstration plan will be equivalent in determining compliance with the soil moisture content requirements. Prior approval from the Control Officer and the Administrator shall be received before implementing the plan.
- d. Enclose and exhaust the regulated process to a properly sized fabric filter baghouse.

**302 ASPHALTIC CONCRETE PLANTS – PROCESS EMISSION LIMITATIONS AND CONTROLS:**

**302.1 Process Emission Limitations:** The owner and/or operator ~~of an asphaltic concrete plant~~ shall not discharge or cause or allow to be discharged into the ambient air:

- a. For non-rubberized asphaltic concrete plants, stack emissions exceeding 5% opacity and containing more than 0.04 gr/dscf (90 mg mg/dscm) of particulate matter ~~over a 6 minute period.~~
- b. For rubberized asphaltic concrete plants (when producing rubberized asphalt only), stack emissions exceeding 20% opacity and containing more than 0.04 gr/dscf (90 mg/dscm) of particulate matter ~~over a 6 minute period.~~

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- c. ~~From all cement, lime, and/or fly ash storage silo(s), fugitive dust emissions exceeding 20% opacity. Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping.~~

**302.2 Controls:** ~~The owner and/or operator of an asphaltic concrete plant shall implement all of the following process controls: shall, from all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse.~~

- a. ~~On all cement, lime, and/or fly ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.~~
- b. ~~On existing cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~
- e. ~~On new cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf, with an opacity limit of not greater than 5% over a 6 minute period.~~
- d. ~~From all drum dryers, control and vent exhaust to a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~

**303 CONCRETE PLANTS AND/OR BAGGING OPERATIONS – PROCESS EMISSION LIMITATIONS AND CONTROLS: RAW MATERIAL STORAGE AND DISTRIBUTION, CONCRETE PLANTS, AND/OR BAGGING OPERATIONS – PROCESS EMISSION LIMITATIONS AND CONTROLS:**

**303.1 Process Emission Limitations:** ~~The owner and/or operator of a concrete plant and/or bagging operation shall not discharge or cause or allow to be discharged into the ambient air:~~

- a. ~~Stack emissions exceeding 7% 5% opacity.~~
- b. ~~Fugitive dust emissions exceeding 10% opacity from any affected operation or process source, excluding truck dumping, directly into any screening operation, feed hopper, or crusher.~~
- e. ~~Fugitive dust emissions exceeding 20% opacity from truck dumping directly into any screening operation, feed hopper, or crusher.~~

**303.2 Controls:** ~~The owner and/or operator of a concrete plant and/or bagging operation shall implement the following process controls:~~

- a. ~~On all cement, lime, and/or fly-ash storage silo(s), install an operational overflow warning system/device. The system/device shall be designed to alert operator(s) to stop the loading operation when the cement, lime, and/or fly-ash storage silo(s) are reaching a capacity that could adversely impact pollution abatement equipment.~~
- b. ~~On existing cement, lime, and/or fly ash storage silo(s), install a properly sized fabric filter baghouse, with an opacity limit of not greater than 5% over a 6 minute period.~~
- e.b. ~~On new cement, lime, and/or fly-ash storage silos, install a properly sized fabric filter baghouse or equivalent device designed to meet a maximum outlet grain loading of 0.01 gr/dscf.~~
- d.c. ~~On dry mix concrete plant loading stations/truck mixed product, implement one of the following process controls:
  - (1) Install a rubber fill tube;
  - (2) Install a water spray;
  - (3) Install a properly sized fabric filter baghouse or delivery system;
  - (4) Enclose mixer loading stations such that no visible emissions occur; or
  - (5) Conduct mixer loading stations in an enclosed process building such that no visible emissions from the building occur during the mixing activities.~~
- e.d. ~~On cement silo filling processing/loading operations controls, install a pressure control system designed to shut off cement silo filling processes/loading operations, if pressure from delivery truck is excessive, as defined in O&M Plan.~~

**304 OTHER ASSOCIATED OPERATIONS:** ~~All other affected operations or process sources not specifically listed in Sections 301, 302, or 303 of this rule associated with the processing of nonmetallic minerals, all other fugitive dust emission limitations not specifically listed in Section 306 of this rule, all other fugitive dust control measures not specifically listed in Section 307 of this rule, and all overburden operations shall, at a minimum, meet the provisions of Rule 310 of these rules.~~

**305 AIR POLLUTION CONTROL EQUIPMENT AND APPROVED EMISSION CONTROL SYSTEM (ECS):** An owner and/or operator of a facility shall provide, properly install and maintain in calibration, in good working order, and in operation air pollution control equipment required by this rule. When selecting air pollution control

equipment required by this rule, the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some air pollution control equipment may be more reasonable to implement than others. Regardless, any air pollution control equipment that is installed must achieve the applicable standard(s) required by this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator of a facility may submit a request to the Control Officer and the Administrator for the use of alternative air pollution control equipment. The request shall include the proposed alternative air pollution control equipment, the air pollution control equipment that the alternative would replace, and a detailed statement or report demonstrating that the air pollution control equipment would result in equivalent or better emission control than the equipment prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator to grant the petition, the facility shall incorporate the alternative air pollution control equipment in any required Operation and Maintenance (O&M) Plan.

**305.1 Operation and Maintenance (O&M) Plan Requirements for ECS:**

- a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.
- b. The owner and/or operator of a facility shall submit to the Control Officer for approval the O&M Plan(s) for each ECS and for each ECS monitoring device that is used pursuant to this rule.
- c. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

**305.2 Operation and Maintenance (O&M) Plan Requirements for Dust Control Measures:**

- a. An owner and/or operator of a facility shall provide and maintain, readily available on-site at all times, (an) O&M Plan(s) for equipment associated with any process fugitive emissions and fugitive dust control measures (i.e., gravel pads, wheel washers, truck washers, rumble grates, watering systems, and street sweepers) that are implemented to comply with this rule or an air pollution control permit.
- b. The owner and/or operator of a facility shall comply with all the identified actions and schedules provided in each O&M Plan.

~~305.2~~**305.3 Providing and Maintaining ECS Monitoring Devices:** An owner and/or operator of a facility operating an ECS pursuant to this rule shall install, maintain, and calibrate monitoring devices described in the O&M Plan(s). The monitoring devices shall measure pressures, rates of flow, and/or other operating conditions necessary to determine if the control devices are functioning properly.

~~305.3~~**305.4 O&M Plan Responsibility:** An owner and/or operator of a facility that is required to have an O&M Plan pursuant to ~~Section 305.1~~ Section 305 of this rule must fully comply with all O&M Plans that the owner and/or operator has submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the Control Officer.

**306 FUGITIVE DUST EMISSION LIMITATIONS:**

**306.1 20% Opacity Limitation:** ~~The~~ For emissions that are not already regulated by an opacity limit, the owner and/or operator of a facility shall not discharge or cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in ~~Section 502~~ Section 503 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules.

**306.2 Visible Emission Limitation Beyond Property Line:** An owner and/or operator of a facility shall not cause or allow fugitive dust emissions from any active operation, open storage pile, or disturbed surface area associated with such facility such that the presence of such fugitive dust emissions remain visible in the atmosphere beyond the property line of such facility.

**306.3 Wind Event:** The fugitive dust emission limitations described in Section 306.1 and Section 306.2 of this rule shall not apply during a wind event, if the owner and/or operator of a facility meets the following conditions:

- a. Has implemented the fugitive dust control measures described in Section 307 of this rule, as applicable;
- b. Has compiled and retained records, in accordance with Section 501.4 of this rule, and has documented by records the occurrence of a wind event on the day(s) in question. The occurrence of a wind event must be determined by the nearest ~~Maricopa County Environmental Services Department Air Quality Division~~ Maricopa County Air Quality Department monitoring station, from any other certified meteorological station, or by a wind instrument that is calibrated according to manufacturer's standards and that is located at the site being checked; and
- c. Has implemented the following high wind fugitive dust control measures, as applicable:

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- (1) For an active operation, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules:
  - (a) Cease active operation that may contribute to an exceedance of the fugitive dust emission limitations described in Section 306.1 and ~~Section 306.2~~ of this rule for the duration of the wind event and, if active operation is ceased for the remainder of the work day, stabilize the area; or
  - (b) ~~Maintain a visible crust by applying water~~ Before and during active operations, apply water or other suitable dust suppressant other than water ~~or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in Section 503 and Section 504 of this rule.~~ to keep the soil visibly moist.
- (2) For an inactive open storage pile, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules:
  - (a) Maintain a visible soil crust by applying water or other suitable dust suppressant other than water or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in ~~Section 503 and Section 504~~ Section 505 of this rule.
  - (b) Cover open storage pile with tarps, plastic, or other material such that wind will not remove the covering, if open storage pile is less than eight feet high.
- (3) For a ~~an~~ inactive disturbed surface area, implement one of the following fugitive dust control measures, in accordance with the test methods described in Section 503 and Section 504 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules:
  - (a) Uniformly apply and maintain surface gravel or a dust suppressant other than water; or
  - (b) Maintain a visible soil crust by applying water or other suitable dust suppressant other than water or by implementing another fugitive dust control measure, in sufficient quantities to meet the stabilization standards described in ~~Section 503 and Section 504~~ Section 505 of this rule.

**306.4 Silt Loading and Silt Content Standards for Unpaved ~~Internal~~ Roads and Unpaved Parking and Staging Areas:** From unpaved ~~internal~~ roads and unpaved parking and staging areas, the owner and/or operator of a facility shall not discharge or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity, in accordance with the test methods described in Section 502 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules, and one of the following:

- a. For unpaved roads, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup>; or silt content exceeding 6%.
- b. ~~Silt content exceeding 6%.~~ For unpaved parking and staging areas, silt loading equal to or greater than 0.33 oz/ft<sup>2</sup> or silt content exceeding 8%.

**306.5 Stabilization Standards:**

- a. An owner and/or operator of a facility with an open area or a disturbed surface area on which no activity is occurring (including areas that are temporarily or permanently inactive) shall be considered in violation of this rule if ~~any open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility~~ area is not maintained in a manner that meets at least one of the standards listed below, as applicable.
  - (1) Maintain a visible soil crust;
  - (2) Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;
  - (3) Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;
  - (4) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;
  - (5) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;
  - (6) Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or
  - (7) Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator. ~~of the Environmental Protection Agency (EPA).~~

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- b. If no activity is occurring on an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility and if an open storage pile and material handling or surface soils where support equipment and vehicles operate in association with such facility contain more than one type of ~~disturbance~~ visibly distinguishable stabilization characteristics, soil, vegetation, or other characteristics, which are visibly distinguishable, ~~each representative surface shall be tested~~ the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, in accordance with the appropriate test methods described in ~~Section 503 and Section 504~~ Section 505 of this rule and in Appendix C – Fugitive Dust Test Methods of these rules. ~~and shall be included in or eliminated from the total size assessment of disturbed surface area(s) depending upon test method results.~~

**307 FUGITIVE DUST CONTROL MEASURES:** The owner and/or operator of a nonmetallic mineral processing plant and/or a rock product processing plant shall implement the fugitive dust control measures described in this section of this rule. When selecting a fugitive dust control measure(s), the owner and/or operator of a facility may consider the site-specific and/or material-specific conditions and logistics of a facility. When doing so, some fugitive dust control measures may be more reasonable to implement than others. Regardless, any fugitive dust control measure that is implemented must achieve the applicable standard(s) described in Section 306 of this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule. The owner and/or operator of a facility may submit a request to the Control Officer and the Administrator of the ~~Environmental Protection Agency (EPA)~~ for the use of alternative control measure(s). The request shall include the proposed alternative control measure, the control measure that the alternative would replace, and a detailed statement or report demonstrating that the measure would result in equivalent or better emission control than the measures prescribed in this rule. Nothing in this rule shall be construed to prevent an owner and/or operator of a facility from making such demonstration. Following a decision by the Control Officer and the Administrator ~~of the EPA~~ to grant the petition, the facility shall incorporate the alternative control measure in any required Dust Control Plan. When engaged in the activities described in Section 301 and Section 307.1 through Section 307.9 of this rule, the owner and/or operator of a facility shall install, maintain, and use fugitive dust control measures as described in Section 307.1 through Section 307.9 of this rule, as applicable.

**307.1 Open Storage Piles and Material Handling:** The owner and/or operator of a facility shall implement all of the following fugitive dust control measures, as applicable. ~~in compliance with Section 306.1 and Section 306.5 of this rule.~~ For the purpose of this rule, open storage pile(s) and material handling does not include berms and guard rails that are installed to comply with 30 CFR 56.93000. However, such berms and guard rails shall be installed and maintained in compliance with Section 306.1, Section 306.2, and Section 306.5 of this rule.

- a. Prior to, and/or while conducting ~~stacking~~, loading, and unloading operations, implement one of the following fugitive dust control measures:
- (1) Spray material with water, as necessary; or
  - (2) Spray material with a dust suppressant other than water, as necessary.
- b. When not conducting ~~stacking~~, loading, and unloading operations, implement one of the following fugitive dust control measures:
- (1) Spray material with water, as necessary; ~~in compliance with Section 306.1 and Section 306.5 of this rule;~~
  - (2) Maintain a 1.5% or more soil moisture content of the open storage pile(s); ~~in compliance with Section 306.1 and Section 306.5 of this rule;~~
  - (3) Locate open storage pile(s) in a pit/in the bottom of a pit; ~~If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;~~
  - (4) Arrange open storage pile(s) such that storage pile(s) of larger diameter products are on the perimeter and act as barriers to/for open storage pile(s) that could create fugitive dust emissions; ~~If implementing this fugitive dust control measure, the owner and/or operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;~~
  - (5) Meet one of the stabilization standards in Section 306.5 of this rule; or
  - (6)(5) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%; ~~or If implementing this fugitive dust control measure, the owner and/or~~

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~~operator of a facility shall also comply with the stabilization standards in Section 306.5 of this rule;~~

~~(7)(6) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings.~~

c. When installing new open storage pile(s) at an existing facility and/or when installing new open storage pile(s) at a new facility, the owner and/or operator shall implement all of the following fugitive dust control measures ~~in compliance with Section 306.1 and Section 306.5 of this rule~~, only if it is determined to be feasible on a case-by-case basis through the Dust Control Plan by assessing the amount of open land available at the property at the time the new open storage pile(s) are formed:

(1) Install the open storage pile(s) at least 25 feet from the property line; and

(2) Limit the height of the open storage pile(s) to less than 45 feet.

d. For existing open storage pile(s) and when installing open storage pile(s) for an existing facility or for a new facility, if such open storage pile(s) will be constructed over eight feet high and will not be covered, then the owner and/or operator shall install, use, and maintain a water truck or other method that is capable of completely wetting the surfaces of open storage pile(s). ~~in compliance with Section 306.1 and Section 306.5 of this rule.~~

**307.2 Surface Stabilization Where Support Equipment and Vehicles Operate:** The owner and/or operator of a facility shall ~~stabilize surface soils where loaders, support equipment, and vehicles will operate by implementing one of the following fugitive dust control measures, in compliance with Section 306.4 and/or Section 306.5 of this rule, as applicable:~~ implement one of the following fugitive dust control measures on areas other than the areas identified in Section 307.3 and Section 307.4 of this rule where loaders, support equipment, and vehicles operate.

a. ~~Pre-water surface soils~~ Apply and maintain water;

b. Apply and maintain a dust suppressant, other than water; or

c. Apply a gravel pad, in compliance with ~~the~~ Section 307.6(b)(4) of this rule.

**307.3 Haul/Access Roads That Are Not In Permanent Areas of a Facility:**

a. The owner and/or operator of a facility shall implement one of the following fugitive dust control measures, as applicable, ~~in compliance with Section 306.4 of this rule~~, before engaging in the use of, or in the maintenance of, haul/access roads. Compliance with the provisions of this section of this rule shall not relieve any person subject to the requirements of this section of this rule from complying with any other federally enforceable requirements (i.e., a permit issued under Section 404 of the Clean Water Act).

(1) Install and maintain bumps, humps, or dips for speed control and apply water, as necessary;

(2) Limit vehicle speeds and apply water, as necessary;

(3) Pave;

(4) Apply and maintain a gravel pad in compliance with Section 307.6(b)(4) of this rule;

(5) Apply a dust suppressant, other than water; or

(6) Install and maintain a cohesive hard surface.

b. For a new facility, if ~~implementing one~~ it is determined that none of the fugitive dust control measures described in Section 307.3(a) of this rule ~~is determined to be technically infeasible as obtained/approved in writing by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) and as approved in the Dust Control Plan,~~ can be technically and feasibly implemented, then the owner and/or operator of a new facility shall maintain a minimum distance of 25 feet from the property line for haul/access roads associated with the new facility. Such determination shall be made and approved in writing by the Control Officer and the Administrator and shall be approved in the Dust Control Plan.

**307.4 On-Site Traffic:**

a. The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to remain on ~~internal~~ roads with paved surfaces or cohesive hard surfaces. ~~in the permanent areas of the facility /operation that include entrances, exits, warehouses and maintenance areas, office areas, concrete plant areas, asphaltic plant areas, and parking and staging areas, as approved in the Dust Control Plan.~~

b. The owner and/or operator of a facility shall require all aggregate trucks to remain on ~~internal roads~~ subject to Section 307.4(a) of this rule, paved surfaces or cohesive hard surfaces, except when entering and exiting driving on roads leading to and from aggregate loading areas/loading operations, as approved in the Dust Control Plan.

- c. The owner and/or operator of a facility shall require all batch trucks and material delivery trucks to enter and exit the facility/operation only through entrances that comply with the trackout requirements in ~~Section 307.5~~ Section 307.6 of this rule. ~~and that comply with Section 306.5 of this rule.~~
  - d. The owner and/or operator of a facility shall pave or install a cohesive hard surface on permanent areas of a facility on which vehicles drive, as approved in the Dust Control Plan.
- 307.5 Off-Site Traffic:** When hauling and/or transporting bulk material off-site, the owner and/or operator of a facility shall implement all of the following control measures:
- a. Load all haul trucks such that the freeboard is not less than three inches;
  - b. Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and
  - c. Cover haul trucks with a tarp or other suitable closure.
- 307.6 Trackout:**
- a. **Rumble Grate and Wheel Washer:** The owner and/or operator of a new permanent facility and the owner and/or operator of an existing permanent facility with a minimum of 60 aggregate trucks, mixer trucks, and/or batch trucks exiting a facility on any day onto paved public roadways/paved areas accessible to the public shall install, maintain, and use a rumble grate and wheel washer, in accordance with all of the following conditions, as applicable. For the purpose of this rule, a vehicle wash and/or a cosmetic wash may be substituted for a wheel washer, provided such vehicle wash and/or cosmetic wash has at least 40 pounds per square inch (psi) water spray from the nozzle (owner and/or operator of the facility shall have a water pressure gauge available on-site to allow verification of such water pressure), meets the definition of wheel washer (i.e., is capable of washing the entire circumference of each wheel of the vehicle), is operated in such a way that visible deposits are removed from the entire circumference of each wheel of the vehicle exiting the wash, is installed, maintained, and used in accordance with criteria in Sections 307.6(a)(1)–(5) of this rule, and is approved in the Dust Control Plan for the facility.
    - (1) ~~The owner and/or operator of a facility shall locate a rumble grate within 10 feet from a wheel washer. The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout.~~
      - (a) The rumble grate and wheel washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks.
      - (b) The owner and/or operator of a facility may be allowed to install a rumble grate and wheel washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate and wheel washer no less than 30 feet prior to each exit and that a rumble grate and wheel washer at a shorter distance will be adequate to prevent trackout.
      - (c) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.
    - (2) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks exit the facility via the rumble grate first and then the wheel washer.
    - (3) The owner and/or operator of a facility shall post a sign by the rumble grate and wheel washer to designate the speed limit as 5 miles per hour.
    - (4) The owner and/or operator of a facility shall pave the ~~internal~~ roads from the rumble grate and wheel washer to the facility exits leading to paved public roadways/paved areas accessible to the public.
    - (5) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks remain on the paved ~~internal~~ roads between the rumble grate and wheel washer and the facility exits leading to paved public roadways/paved areas accessible to the public.

- b. Rumble Grate, Wheel Washer, Or Truck Washer:** The owner and/or operator of a facility not subject to Section 307.6(a) of this rule shall install, maintain, and use a rumble grate, wheel washer, or truck washer in accordance with all of the following:
- (1) A rumble grate, wheel washer, or truck washer shall be located no less than 30 feet prior to each exit that leads to a paved public roadway/paved area accessible to the public and that is used by aggregate trucks, mixer trucks, and/or batch trucks. ~~The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit, if the owner and/or operator of a facility can demonstrate to the Control Officer by September 30, 2005, that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout.~~
    - (a) The owner and/or operator of a facility may be allowed to install a rumble grate, wheel washer, or truck washer less than 30 feet prior to each exit if the owner and/or operator of a facility can demonstrate to the Control Officer that there is not adequate space to install a rumble grate, wheel washer, or truck washer no less than 30 feet prior to each exit and that a rumble grate, wheel washer, or truck washer at a shorter distance will be adequate to prevent trackout.
    - (b) A rumble grate shall consist of raised dividers (rails, pipes, or grates) a minimum of three inches tall, six inches apart, and 20 feet long, to allow a vibration to be produced such that dust is shaken off the wheels of a vehicle as the entire circumference of each wheel of the vehicle passes over the rumble grate.
  - (2) The owner and/or operator of a facility shall ensure that all aggregate trucks, mixer trucks, and/or batch trucks exit the facility via a rumble grate, wheel washer, or truck washer.
  - (3) The owner and/or operator of a facility shall post a sign by the rumble grate, wheel washer, or truck washer to designate the speed limit as 5 miles per hour.
  - (4) If haul/access roads/~~internal roads~~ are unpaved between the rumble grate, wheel washer, or truck washer and the facility exits leading to paved public roadways/paved areas accessible to the public, a gravel pad shall be installed, maintained, and used from the rumble grate, wheel washer, or truck washer to such paved public roadways/paved areas accessible to the public in accordance with all of the following:
    - (a) Gravel pad shall be designed with a layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter and 6 inches deep, 30 feet wide, and 50 feet long and shall be flushed with water or completely replaced as necessary to comply with the trackout threshold described in Section 307.6(d) of this rule.
    - (b) Gravel pad shall have a gravel pad stabilizing mechanism/device (i.e., curbs or structural devices along the perimeter of the gravel pad) and shall be flushed with water or completely replaced as necessary to comply with the trackout threshold described in Section 307.6(d) of this rule.
- c. Exemptions for Wheel Washers:** The owner and/or operator of a facility shall not be required to install, maintain, and use a wheel washer, if any one of the following are applicable:
- (1) A facility has all paved ~~internal~~ roads and meters aggregate or related materials directly to a ready-mix or hot mix asphalt truck, with the exception of returned products. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule.
  - (2) A facility is less than 5 acres in land size and handles recycled asphalt and recycled concrete exclusively. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule on all unpaved ~~internal~~ roads leading to the facility exits leading to paved public roadways/paved areas accessible to the public.
  - (3) A facility has a minimum of ¼ mile paved ~~internal~~ roads leading from a rumble grate to the facility exits leading to paved public roadways/paved areas accessible to the public.
  - (4) A facility meets the definition of infrequent operations, as defined in ~~Section 230~~ Section 229 of this rule. The owner and/or operator of the facility shall install, maintain, and use a rumble grate in compliance with Section 307.6(b) of this rule and shall install a gravel pad in compliance with Section 307.6(b)(4) of this rule. The gravel pad shall be installed for a distance of no less than 100 feet from the rumble grate to the facility exits leading to paved public roadways/paved areas

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accessible to the public. The owner and/or operator of the facility shall keep records in accordance with Section 500 of this rule, as applicable. The owner and/or operator of the facility shall notify the Control Officer in the event that the facility will operate more than 52 days per year based on the average rolling 3-year period after June 8, 2005 and the owner and/or operator of the facility shall comply with Section 307.6 of this rule, as applicable.

- d. **Trackout Distance:** An owner and/or operator of a facility shall not allow trackout to extend a cumulative distance of 25 linear feet or more from all facility exits onto paved areas accessible to the public. Notwithstanding the proceeding, the owner and/or operator of a facility shall clean up all other trackout at the end of the workday.
- e. **Cleaning Paved ~~Internal~~ Roads Identified In The Dust Control Plan:** The owner and/or operator of a facility shall clean all paved ~~internal~~ roads identified in the Dust Control Plan for a facility in accordance with all of the following as applicable:
  - (1) The owner and/or operator of a facility with a minimum of 60 aggregate trucks, mixer trucks, and/or batch trucks exiting the facility on any day shall sweep the paved ~~internal~~ roads with a street sweeper by the end of each production work shift, if there is evidence of dirt and/or other bulk material extending a cumulative distance of 12 linear feet or more on any paved ~~internal~~ road.
  - (2) The owner and/or operator of a facility with less than 60 aggregate trucks, mixer trucks, and/or batch trucks exiting the facility on any day shall sweep the paved ~~internal~~ roads with a street sweeper by the end of every other work day. On the days that paved ~~internal~~ roads are not swept, the owner and/or operator of a facility shall apply water ~~as necessary to comply with Section 306 of this rule~~ on at least 100 feet of paved ~~internal~~ roads or the entire length of paved ~~internal~~ roads leading to an exit to paved public roadways/paved areas accessible to the public, if such roadways are less than 100 feet long.
  - (3) The owner and/or operator of a facility, who purchases street sweepers after June 8, 2005, shall purchase street sweepers that meet the criteria of PM<sub>10</sub>-efficient South Coast Air Quality Management Rule 1186 certified street sweepers.
  - (4) The owner and/or operator of a new facility shall use South Coast Air Quality Management Rule 1186 certified street sweepers to sweep paved ~~internal~~ roads.

**307.7 Pad Construction for Processing Equipment:** The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures during the construction of pads for processing equipment, so as to meet all of the applicable requirements in this rule, and shall identify, in the Dust Control Plan, such fugitive dust control measures.

**307.8 Spillage:** In addition to complying with the fugitive dust emission limitations described in Section 306 of this rule and implementing fugitive dust control measures described in Section 307.1 through Section 307.9 of this rule, as applicable, the owner and/or operator of a facility shall implement ~~one of~~ the following fugitive dust control measures, as applicable, when spillage occurs:

- a. Promptly remove any pile of spillage on paved haul/access roads/paved ~~internal~~ roads; or
- b. Maintain in a stabilized condition any pile of spillage on paved haul/access roads/paved ~~internal~~ roads and remove such pile by the end of each day; ~~or~~ and
- c. Maintain in a stabilized condition all other piles of spillage with dust suppressants until removal.

**307.9 Nighttime Operations:** The owner and/or operator of a facility shall implement, maintain, and use fugitive dust control measures at night, as approved in the Dust Control Plan.

**308 FACILITY INFORMATION SIGN:** The owner and/or operator of a facility subject to this rule shall erect and maintain a facility information sign at the main entrance such that members of the public can easily view and read the sign at all times. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information:

**308.1** Facility name and permittee's name;

**308.2** Current number of the air quality permit or of authority to operate under a general permit;

**308.3** Name and local phone number of person(s) responsible for dust control matters; and

**308.4** Text stating: "Dust complaints? Call Maricopa County Air Quality Department – (Insert the accurate Maricopa County Air Quality Department complaint line telephone number)."

**308-1309 FUGITIVE DUST CONTROL TECHNICIAN:** The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour or with five acres or more of disturbed surface area subject to a permit, whichever is greater, shall have in place a Fugitive Dust Control Technician ~~or his designee~~, who shall meet all of the following qualifications:

**308-1309.1** Be authorized by the owner and/or operator of the facility to have full authority to ensure that fugitive dust control measures are implemented on-site and to conduct routine inspections, recordkeeping, and

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reporting to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with this rule.

**309.2** Be trained in accordance with the Comprehensive Dust Control Training Class conducted or approved by the Control Officer, successfully complete, at least once every three years, such Comprehensive Dust Control Training Class, and have a valid dust training certification identification card readily accessible on-site while acting as a Fugitive Dust Control Technician.

~~308.2~~**309.3** Be authorized by the owner and/or operator of the facility to install, maintain, and use fugitive dust control measures, deploy resources, and shutdown or modify activities as needed.

~~308.3~~**309.4** Be available within 30 minutes. Be on-site at all times during primary dust-generating operations related to the purposes for which the permit was obtained.

~~308.4~~ Be issued a valid Certificate of Completion of the Maricopa County Fugitive Dust Control Class.

~~308.5~~**309.5** Be certified to determine opacity as visible emissions in accordance with the provisions of the EPA Method 9 as specified in 40 CFR, Part 60, Appendix A.

**309.6** Be authorized by the owner and/or operator of the facility to ensure that the site superintendent or other designated on-site representative of the owner and/or operator of the facility and water truck and water pull drivers for each site be trained in accordance with the Basic Dust Control Training Class conducted or approved by the Control Officer with jurisdiction over the site and successfully complete, at least once every three years, such Basic Dust Control Training Class.

**310 BASIC DUST CONTROL TRAINING CLASS:**

**310.1** At least once every three years, the site superintendent or other designated on-site representative of the permit holder, if present at a site that has more than one acre of disturbed surface area that is subject to a permit issued by the Control Officer requiring control of PM<sub>10</sub> emissions from dust-generating operation, shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.

**310.2** At least once every three years, water truck and water-pull drivers shall successfully complete a Basic Dust Control Training Class conducted or approved by the Control Officer.

**310.3** All persons having successfully completed training during the 2006 and 2007 calendar years shall be deemed to have satisfied the requirement to successfully complete the Basic Dust Control Training Class, if the training that was completed was conducted or approved by the Control Officer. Completion of the Comprehensive Dust Control Training Class, as required in Section 309.2 of this rule, shall satisfy the requirement of this section of this rule.

~~309.311~~ **DUST CONTROL PLAN:** The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 306 and Section 307 of this rule. The Dust Control Plan shall, at a minimum, contain all the information described in Rule 310 (Fugitive Dust) of these rules. All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 (Fugitive Dust) of these rules.

**311.1** The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all fugitive dust control measures to be implemented, in order to comply with Section 305.2, Section 306, Section 307, and Section 309 of this rule.

**311.2** The owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that describes all equipment associated with any process fugitive emissions to be implemented, in order to comply with Section 301 and Section 305.2 of this rule and that includes all of the information in Section 311.2(a) and Section 311.2(b) of this rule, as applicable. If an alternative plan for conducting required soil moisture tests is approved by the Control Officer, included in a Dust Control Plan, and implemented by the owner and/or operator, as allowed under Section 301.2(c)(6) of this rule, and if the Control Officer determines that such alternative plan included in a Dust Control Plan has been followed, yet fugitive dust emissions still exceed the standards of this rule, then the Control Officer shall issue a written notice to the owner and/or operator explaining such determination. The owner and/or operator shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer's written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule.

**a.** Documentation for the soil moisture content in order to comply with Section 301.2 of this rule.

**b.** Documentation of soil moisture analysis for each move notice regarding portable sources.

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- 311.3 The Dust Control Plan shall, in addition, contain all the information described in Rule 310 –Fugitive Dust from Dust-Generating Operations of these rules.
  - 311.4 All other criteria associated with the Dust Control Plan shall meet the criteria described in Rule 310 – Fugitive Dust from Dust-Generating Operations of these rules.
  - 311.5 The Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan shall be deemed a violation of this rule.
  - 311.6 With each move notice regarding portable sources, the owner and/or operator of a facility shall submit, to the Control Officer, a Dust Control Plan that meets the requirements of this section of this rule.
- 312 **GENERAL REQUIREMENTS:** An owner and/or operator of a facility subject to this rule shall be subject to the standards and/or requirements of this rule at all times. Failure to comply with any one of the following requirements shall constitute a violation.
- 312.1 Process emission limitations and controls described in Section 301, Section 302, and Section 303 of this rule.
  - 312.2 Operation and maintenance (O&M) plan requirements for an emission control system and for dust control measures described in Section 305 of this rule.
  - 312.3 Fugitive dust emission limitations described in Section 306 of this rule.
  - 312.4 Fugitive dust control measures described in Section 307 of this rule.
  - 312.5 Facility information sign requirement described in Section 308 of this rule.
  - 312.6 Fugitive Dust Control Technician requirements described in Section 309 of this rule.
  - 312.7 Basic Dust Control Training Class requirements described in Section 310.
  - 312.8 Dust Control Plan requirements described in Section 311 of this rule.
  - 312.9 Monitoring and recordkeeping requirements described in Section 500 of this rule.
  - 312.10 Any other requirements of this rule.

**SECTION 400 – ADMINISTRATIVE REQUIREMENTS**

- 401 COMPLIANCE SCHEDULE:** The newly amended provisions of this rule shall become effective upon adoption of this rule and the following schedule applies except as follows:
- 401.1 **Process Controls:** Process controls required by Section 301.2 of this rule shall be implemented by July 12, 2008.
  - ~~401.1~~401.2 **Dust Control Plan:** When complying with Section 309 of this rule, if a Dust Control Plan is required to be revised, then a revised Dust Control Plan shall be submitted to the Control Officer by September 30, 2005 or three months after rule adoption, whichever comes first. **O&M Plan:**
    - a. The owner and/or operator of an existing facility shall revise/update all O&M Plans by June 12, 2008.
    - b. The Control Officer shall take final action on an O&M Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete O&M Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.
  - ~~401.2~~401.3 **Pressure Control System:** When complying with Section 303.2(e) of this rule, a pressure control system shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first. **Dust Control Plan:**
    - a. The owner and/or operator of an existing facility shall revise/update all Dust Control Plans by June 12, 2008.
    - b. The owner and/or operator of a new facility shall submit to the Control Officer a Dust Control Plan at the time such owner and/or operator submits a permit application to the Control Officer.
    - c. The Control Officer shall take final action on a Dust Control Plan revision/update to address the newly amended provisions of this rule within 30 calendar days of the filing of the complete Dust Control Plan revision/update. The Control Officer shall notify the applicant in writing of his approval or denial.
  - ~~401.3~~401.4 **Operational Overflow Warning System/Device:** When complying with Section 302.2(a) and/or Section 303.2(a) of this rule, an operational overflow warning system/device shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first. **Basic Dust Control Training Class:** No later than December 31, 2008, a site superintendent or other designated on-site representative of the permit holder, water truck drivers, and water pull drivers shall have successfully completed the Basic Dust Control Training Class, as described in Section 310 of this rule.
  - ~~401.4~~401.5 **Fugitive Dust Control Technician:** When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after rule adoption, whichever comes first. **Comprehensive Dust Control Training Class:** No later than June 30, 2008, a Fugitive Dust

Control Technician shall have successfully completed the Comprehensive Dust Control Training Class, as described in Section 309 of this rule.

~~401.5~~**401.6 Surface Stabilization Where Support Equipment and Vehicles Operate:** When complying with Section 307.2 of this rule, surface stabilization and/or paving shall be completed by December 31, 2005 or six months after rule adoption, whichever comes first. **Rumble Grates:** As of June 12, 2008, new rumble grates or existing rumble grates that are moved or modified must meet the requirements described in Sections 307.6(a)(1)(c) or 307.6(b)(1)(b) of this rule.

~~401.6 Trackout:~~ When complying with Section 307.6 of this rule, a rumble grate, wheel washer, or truck washer shall be installed and a schedule for using PM<sub>10</sub> efficient South Coast Air Quality Management Rule 1186 certified street sweepers shall be in place by January 1, 2006.

~~401.7 Process Emission Limitations and Controls:~~ When complying with Section 301, Section 302, and/or Section 303 of this rule, process emission limitations shall be complied with and controls shall be installed by December 31, 2005 or six months after rule adoption, whichever comes first.

## SECTION 500 – MONITORING AND RECORDS

**501 MONITORING, RECORDKEEPING AND REPORTING:** Any owner and/or operator of a facility subject to this rule shall comply with the following requirements. Records shall be retained for five years and shall be made available to the Control Officer upon request.

**501.1** Operational information required by this rule shall be kept in a complete and consistent manner on-site and be made available without delay to the Control Officer upon request.

**501.2** Records of the following process and operational information, as applicable, are required:

**a. General Data:** Daily records shall be kept for all days that a facility is actively operating. Records shall include all of the following:

- (1) Hours of operation;
- (2) Type of batch operation (wet, dry, central);
- (3) Throughput per day of basic raw materials including sand, aggregate, cement (tons/day);
- (4) Volume of concrete produced per day (cubic yards/day) and volume of asphaltic concrete produced per day (tons/day);
- (5) Volume of aggregate mined per day (cubic yards/day) (tons per day); and
- (6) Amount of each basic raw material including sand, aggregate, cement, fly ash delivered per day (tons/day).
- (7) For facilities that assert to be below the thresholds in Section 307.6(a) and Section 307.6(e)(1) of this rule, number of aggregate trucks, mixer trucks, and/or batch trucks exiting the facility.

**b. Additional Data for Dry Mix Concrete Plants and/or Bagging Operations:** Records shall include all of the following:

- (1) Number of bags of dry mix produced;
- (2) Weight (size) of bags of dry mix produced;
- (3) Kind and amount of fuel consumed in dryer (cubic feet/day or gallons/day); and
- (4) Kind and amount of any back-up fuel, if any.

**c. Control and Monitoring Device Data:** Records shall include all of the following:

- (1) For a fabric filter baghouse:
  - (a) Date of inspection;
  - (b) Date and designation of bag replacement;
  - (c) Date of service or maintenance related activities; and
  - (d) Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.
- (2) For a scrubber:
  - (a) Date of service or maintenance related activities;
  - (b) Liquid flow rate;
  - (c) Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and
  - (d) Time, date, and cause of scrubber failure and/or down time, if applicable.
- (3) For watering systems (e.g., spray bars or an equivalent control):
  - (a) Date, time, and location of each moisture sampling point; and
  - (b) Results of moisture testing.

**501.3 ECS O&M Plan Records:** An owner and/or operator of a facility shall maintain all of the following records in accordance with an approved O&M Plan:

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**a. For Any ECS, Any Other Emission Processing Equipment, and Any ECS Monitoring Devices That Are Used Pursuant to This Rule or to an Air Pollution Control Permit:**

- a-(1)** Periods of time that an approved ECS is operating to comply with this rule;
- b-(2)** Periods of time that an approved ECS is not operating;
- c-(3)** Flow rates;
- d-(4)** Pressure drops;
- e-(5)** Other conditions necessary to determine if the approved ECS is functioning properly;
- f-(6)** Results of visual inspections; and
- g-(7)** Correction action taken, if necessary.

**b. For Equipment Associated With Any Process Fugitive Emissions and Any Fugitive Dust Control Measures That Are Implemented To Comply With This Rule Or To An Air Pollution Control Permit:**

- (1)** A written record of self-inspection on each day that a facility is actively operating. Self-inspection records shall include daily inspections or in compliance with O&M Plan requirements, whichever is more frequent;
- (2)** Maintenance of street sweepers; and
- (3)** Maintenance of trackout control devices, gravel pads, wheel washers, and truck washers.

**501.4 Dust Control Plan Records:** ~~An owner and/or operator of a facility shall compile, maintain, and retain records as described in Rule 310 Fugitive Dust of these rules. An owner and/or operator of a facility shall compile, maintain, and retain a written record of self-inspection of all fugitive dust control measures implemented, in order to comply with the Dust Control Plan, on each day that the facility is actively operating. Self-inspection records shall include information as described in Rule 310 – Fugitive Dust from Dust-Generating Operations of these rules.~~

**501.5 Basic Dust Control Training Class Records:** ~~An owner and/or operator of a facility shall compile, maintain, and retain a written record for each employee subject to Section 310 of this rule. Such written records shall include the name of the employee, the date of the Basic Dust Control Training Class that such employee successfully completed, and the name of the agency/representative who conducted such class.~~

**502 COMPLIANCE DETERMINATION – 40 PART 60, APPENDIX A TEST METHODS ADOPTED BY REFERENCE FOR PROCESS EMISSIONS AND CONTROLS:** ~~Compliance determinations for activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be made according to The the test methods for those subparts of 40 CFR Part 60, Appendix A, adopted as of July 1, 2004 July 1, 2007, as listed below. Such subparts of 40 CFR Part 60, Appendix A, adopted as of July 1, 2007 and 40 CFR Part 51, Appendix M, adopted as of July 1, 2007, are adopted by reference as indicated. This adoption by reference includes no future editions or amendments. Copies of test methods referenced in Section 502 of this rule are available at the Maricopa County Environmental Services Air Quality Department, 1001 North Central Avenue, Phoenix, Arizona, 85004. When more than one test method is permitted for a compliance determination, then an exceedance of the limits established in this rule, determined by any of the applicable test methods, constitutes a violation of this rule.~~

**502.1 Grain Loading:** ~~Particulate matter and associated moisture content shall be determined using the applicable EPA Reference Methods 1 through 5, 40 CFR Part 60, Appendix A.~~

**502.2 Opacity Determination Observations:** ~~Opacity observations to measure the opacity of visible emissions shall be conducted in accordance with the test methods described in Appendix C (Fugitive Dust Test Methods) of these rules. Opacity observations to measure visible emissions from activities regulated by Sections 301 (excluding Section 301.1(e)), 302, and/or 303 of this rule shall be conducted in accordance with the techniques specified in EPA Reference Method 203B (Visual Determination of Opacity of Emissions From Stationary Sources for Time-Exception Regulations), 40 CFR Part 51, Appendix M, adopted as of July 1, 2007. Emissions shall not exceed the applicable opacity standards described in Section 301(excluding Section 301.1(e)), Section 302, and Section 303 of this rule for a period aggregating more than three minutes in any 60-minute period.~~

**502.3 Soil Moisture Testing for Watering Systems:**

- a.** ~~If twice daily moisture sampling is required, such sampling shall be conducted within one hour of startup and again at 3 pm or within one hour prior to daily shutdown but no less frequently than once every 8-hour period.~~
- b.** ~~If daily moisture sampling is required, such sampling shall be conducted within one hour after startup.~~
- c.** ~~Moisture testing shall be conducted on all crushers, shaker screens, and material transfer points (excluding wet plants). Unless prior approval from the Control Officer is granted, moisture testing shall be conducted at the following sample points:~~

- (1) Within 10 feet from the point where crushed aggregate material is placed on the discharge belt conveyor from the crusher;
- (2) Within 10 feet from the point where screened aggregate material is placed on the conveyor; and
- (3) From each stacker point.
- d. The number of sampling points identified in Section 502.3(c)(1) through (3) of this rule may be reduced, if the owner and/or operator of a facility complies with all of the following requirements:
  - (1) A 5% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule, is maintained at the primary crusher;
  - (2) A minimum of 20 soil moisture samples are taken at all of the points identified in Section 502.3(c) of this rule;
  - (3) A 4% minimum moisture content, as demonstrated by a soil moisture test conducted in accordance with the test methods described in Section 502 of this rule and as demonstrated by the soil moisture samples required by Section 502.3(d)(2) of this rule, is maintained at all of the points identified in Section 502.3(c) of this rule; and
  - (4) A written request is submitted to and approved by the Control Officer to revise/modify the Dust Control Plan to reflect the change in moisture content and the reduced number of sampling points according to the demonstration made by the owner and/or operator of a facility according to this section of this rule.
- e. Moisture testing is not required on a crusher and/or screen plant equipped with a baghouse or fabric filter, electrostatic precipitator, or wet scrubber, excluding wet spray bars, for control of particulate matter.
- f. Moisture testing shall include all aggregate material less than 0.25 inch in diameter.
- g. Moisture testing shall be conducted in accordance with the requirements of American Society for Testing and Materials C566-97 (2004) "Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying" with the exception that smaller sample portions may be used.

**503 COMPLIANCE DETERMINATION FOR EMISSIONS AND CONTROLS THAT ARE REGULATED BY SECTION 301.1(E), SECTION 304 AND/OR SECTION 306 OF THIS RULE:** To determine compliance with the fugitive dust emission limitations described in Section 301.1(e), Section 304, and/or Section 306 of this rule, opacity observations shall be conducted in accordance with the techniques specified in Appendix C – Fugitive Dust Test Methods of these rules.

**503-504 COMPLIANCE DETERMINATION FOR SOIL MOISTURE CONTENT AND SOIL COMPACTION CHARACTERISTICS TEST METHODS ADOPTED BY REFERENCE:**

~~503-1~~**504.1** ASTM Method ~~D2216-98~~ D2216-05 ("Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass"), 1998 2005 edition.

~~503-2~~**504.2** ASTM Method ~~D1557-91~~ (1998) D1557-02e1 ("Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kNm/m<sup>3</sup>))), 1998 2002 edition.

**504-505 COMPLIANCE DETERMINATION FOR STABILIZATION STANDARDS TEST METHODS ADOPTED BY REFERENCE:** The stabilization standards described in Section 306.5 of this rule shall be determined by using the following test methods in accordance with Appendix C – Fugitive Dust Test Methods of these rules:

~~504-1~~**505.1** Appendix C, ~~Section 2.1.1~~ Section 2.1.2 (Silt Content Test Method) of these rules to estimate the silt content of the trafficked parts of unpaved roads (not to exceed 6%) and unpaved parking lots (not to exceed 8%).

~~504-2~~**505.2** Appendix C, Section 2.3 (Test Methods for Stabilization – ~~Visible Soil~~ Soil Crust Determination) (The Drop Ball/~~Steel Ball~~ Test) of these rules for a visible soil crust.

~~504-3~~**505.3** Appendix C, Section 2.4 (Test Methods for Stabilization – Determination of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules for threshold friction velocity (TFV) corrected for non-erodible elements of 100 cm/second or higher.

~~504-4~~**505.4** Appendix C, Section 2.5 (Test Methods for Stabilization – Determination of Flat Vegetative Cover) of these rules for flat vegetation cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%.

~~504-5~~**505.5** Appendix C, Section 2.6 (Test Methods for Stabilization – Determination of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%.

~~504-6~~**505.6** Appendix C, Section 2.6 (Test Methods for Stabilization – Determination of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a

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predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements.

~~504.7~~505.7 Appendix C, Section 2.7 (Test Methods for Stabilization – Rock Test Method) of these rules for a percent cover that is equal to or greater than 10%, for non-erodible elements.

~~504.8~~505.8 An alternative test method approved in writing by the Control Officer and the Administrator. ~~of the EPA.~~

~~505~~506 **CERTIFIED STREET SWEEPING EQUIPMENT LIST ADOPTED BY REFERENCE:** The list of street sweeping equipment (as of July 9, 2004) that has met the South Coast Air Quality Management Rule 1186 certification standards is found in support documents for the South Coast Air Quality Management District Regulation XI, Source-Specific Standards, Rule 1186 – PM<sub>10</sub> Emissions From Paved and Unpaved Roads and Livestock Operations and is adopted by reference. A copy of the list of certified street sweeping equipment can also be obtained at Maricopa County Air Quality Department, 1001 North Central Avenue, Phoenix, Arizona, 85004.