Rule 316 Responsiveness Summary

The Maricopa County Air Quality Department conducted eight Public Workshops throughout the rulemaking process for Rule 316 – July-December 2004 - and received formal comments during the formal comment period – February-March 2005 - from the Health And Environmental Committee Of The Property Owners And Residential Association Of Sun City West, the Arizona Rock Products Association (ARPA), and the Arizona Chapter Associated General Contractors (AGC). The formal comments and Maricopa County's responses to such formal comments are written below:

Comment #1:

The Environmental Protection Agency (EPA) Method 9 procedure for the "measurement" of opacity, as referred to in Rule 316 draft November 18, 2004, is fraught with possible errors and is totally subjective. There are no tools, only someone's fleeting memory of what 7% opacity looks like (7% opacity is the standard/limit for stack emissions for nonmetallic mineral processing plants per Rule 316, Section 301.1); with and without contrasting background. This is not a measurement. At best it is a guess. (Not only that but this State Implementation Plan (SIP) wants to reduce the number of readings to half that is required by the EPA).

The requirement for opacity applies to whenever a source is in operation, not restricted to sunny days. It should be measured at night as well as day, whenever these plants are operating. Using Method 9 in this and all other Arizona Department Of Environmental Quality (ADEQ) and Maricopa County permits is not a control measure. To continue using this method is ridiculous when the technology required to do it right has been available for the last 30 years. This is the 21st century. ADEQ and Maricopa County should modernize. To continue with the current method is to do nothing. This so-called SIP needs to implement real methods.

The out-of-compliance situation for the Phoenix metro area was not due to opacity exceedances; it was related to health standards set-up by the EPA for PM (particulate material). The out-of-compliance measurements were made by particle monitors. This document doesn't talk about these pollution control methods, only opacity. Because of the cumulative effects on people's health from the pollution, these changes need to happen now and this SIP needs to reflect these changes.

Response #1:

Opacity is the amount of light that is blocked by a medium, like smoke or a tinted window. Opacity is a measurement and is usually stated as a percentage. An opacity of 0% means that all light passes through and an opacity of 100% means that no light passes through. Opacity is important because it gives an indication of the concentration of pollutants leaving a smokestack. Many stationary sources discharge visible emissions into the atmosphere; these emissions are usually in the shape of a plume. A literal definition of "plume opacity" is the degree to which the transmission of light is reduced or the degree to which the visibility of a background as

viewed through the diameter of a plume is reduced. In simpler terms, opacity is the obscuring power of a plume, expressed in percent.

State Implementation Plans (SIPs) typically include several types of opacity regulations, which in some cases may differ from the federal opacity standards, in terms of the opacity limits, the measurement method, the test procedure, or the data evaluation technique. For example, some SIP opacity rules limit visible emissions to a specified number of minutes per hour or other time period (time exemption); some limit opacity to a certain level averaged over a specified number of minutes (time averaged); some set opacity limits where no single reading can exceed the standard (instantaneous or "cap"). Regardless of the exact format of the SIP opacity regulations, nearly all use the procedures in Method 9 for conducting visible emissions field observations and for training and certifying visible emissions observers.

Opacity is an EPA reference method that is widely recognized. It is a practical and effective method that can be used by many different people, both on and off site, to monitor a source's compliance. There is extensive documentation in support of the promulgation of Method 9 as well as case law upholding the validity of Method 9 readings. In addition, it is possible for persons to be certified to conduct night-time Method 9 readings, though the source would need to be illuminated. Rule 316 revisions specifically require nonmetallic mineral processing facilities to implement, maintain, and use fugitive dust control measures at night as required by the approved dust control plan. Furthermore, Rule 316 now includes a modified opacity method that is better tailored to these sources.

Comment #2:

In regards to Rule 316 draft November 18, 2004, an August 29, 2004 report from the law offices of Udall, Shumway, and Lyons, P.L.C. was referenced in the Technical Review And Evaluation Of Application For Arizona Department Of Environmental Quality (ADEQ) air quality permit number 1001684. Privately funded PM_{10} samplers recorded PM_{10} pollution on three sides of a portable hot mix asphalt plant with co-located crushing and screening equipment. Measurements were made from February 6, 2003 to July 20, 2004. The 24-hour and/or the annual limit were exceeded for about half of the time. These results were not correlated with production levels. If the plant was not operating at its full potential to emit, these levels could have been much higher whenever it reached such production levels.

These results show that ADEQ air quality permit number 1001684 and all other permits, as written, don't reflect what exceedances can and probably are happening. That makes ADEQ permits, Maricopa County permits, and Rule 316 inadequate. ADEQ and Maricopa County are given the responsibility of protecting the health of the people in Arizona and Maricopa County, per Arizona Revised Statutes (ARS) §49-401. PM_{10} pollution is serious. In June 2004, the American Cancer Society made a statement that for every 10 microgram/cubic meter increase in PM_{10} pollution level, the mortality risk increases by 12%.

Accurate and continuous PM_{10} and $PM_{2.5}$ monitors need to be placed on all sides of all polluting plants. An alarm system needs to be implemented, so that if exceedances occur, then a plant will be shut-down and the permit parameters will be adjusted downward until testing confirms that pollution levels are below the Environmental Protection Agency (EPA) limits. Because of the cumulative effects on people's health from the pollution, these changes need to happen now and this State Implementation Plan (SIP) needs to reflect these changes.

Response #2:

The Maricopa County Air Quality Department and the Arizona Department Of Environmental Quality (ADEQ) maintain several ambient air monitoring networks within the borders of Maricopa County. The purpose of the ambient air monitoring network is to sample air pollution in a variety of settings, assess the health and welfare effects, and assist in determining sources of air pollution. Additional items such as availability of power, accessibility to site, security, geographic location, and fiscal and personnel resources are also used in determining feasibility of the network design. Since it is physically and fiscally impossible to monitor the air in every location, representative samples must be obtained. These samples are determined by using the monitoring objectives and the spatial measurement scales. The network must be dynamic enough to maintain a current representative sample of the air quality.

Maricopa County publishes an annual network review of the Maricopa County ambient air monitoring network (http://www.maricopa.gov/AQ/divisions/monitoring/docs/pdf/REVIEW05.pdf).
One of the fundamental purposes of the annual review is to provide the citizens of Maricopa County with relevant information, so that they may make better decisions about their lives. This information is used in a variety of ways. Most importantly, this information is used to determine the attainment status for parts of Maricopa County. Another way this information is used is to determine permit conditions of new industries. Using the data, mathematical models are created to determine the effectiveness of control programs on pollution levels. Also, other models are created to determine the possible locations of new air monitoring sites and to help in air pollution forecasts. The EPA annually reviews Maricopa County's network review and has found that it meets the EPA requirements for a monitoring network.

The monitoring network is set up to take measurements representative of the nonattainment area. Agencies do not typically install ambient monitors at the fencelines. No agency could afford to do what you have suggest, which is to put monitors around all plants. It would be prohibitively expensive.

As noted above, both the EPA and the Maricopa County Air Quality Department rely on the monitoring network to determine whether ambient concentrations of pollutants are below federal air quality standards. Maricopa County data reported to the EPA's Aerometric Information Retrieval System (AIRS) 1999, 2000, and through three quarters of 2001 showed exceedances the Maricopa County PM_{10} nonattainment area at monitors in the Salt River. Consequently, ADEQ prepared the Final Revised PM_{10} State Implementation Plan for the Salt

River Area. That plan identified and implements corrective PM_{10} control provisions in the Salt River Study Area and for similar significant sources in the Maricopa County PM_{10} nonattainment area. The revisions to Rule 316 implement additional requirements for to reduce the likelihood of exceedances and will be incorporated into existing and new permits.

Comment #3:

Regarding Rule 316 draft October 28, 2004, does Regulation III cover other air contaminants besides particulates? If not, then the Regulation III title should be changed to "Control Of Particulate Air Contaminants"?

Response #3:

The Maricopa County Air Pollution Control Regulations are divided into six regulations, ordinances, and appendices:

Regulation I - General Provisions
Regulation II - Permits And Fees
Regulation III - Control Of Air Contaminants
Regulation IV - The Hearing Board
Regulation V - Air Quality Standards And Area Classification
Regulation VI - Emergency Episodes
Ordinances
Appendices

Rules are included under each of the six regulations and are associated with each regulation heading. For example, rules under the heading "Control Of Air Contaminants" regulate one or more than one of the following air contaminants: smoke, vapors, charred paper, dust, soot, grime, carbon, fumes, gases, sulfuric acid mist aerosols, aerosol droplets, odors, particulate matter, windborne matter, radioactive materials, noxious chemicals, or any other material in the outdoor atmosphere. Rule 316 is under the heading "Regulations III (Control Of Air Contaminants)" and regulates the air contaminant "particulate matter".

Comment #4:

Does the conformity section of the Clean Air Act apply to Rule 316 draft October 28, 2004? If so, the source emissions from stacks, processes, fugitive dust, and pollution from associate trucking should be taken into account.

Response #4:

Conformity is defined in Section 176(c) of the Clean Air Act (CAA) of 1990 as conformity to the State Implementation Plan's (SIP's) purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards (NAAQS) and achieving expeditious attainment of such standards and

that such activities will not: (1) cause or contribute to any new violation of any standard in any area; (2) increase the frequency or severity of any existing violation of any standard in any area; and (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

In November 1993, the Environmental Protection Agency (EPA) promulgated two sets of regulations to implement Section 176(c). First, on November 24, 1993, the EPA promulgated the Transportation Conformity Regulations (applicable to highways and mass transit) to establish the criteria and procedures for determining that transportation plans, programs, and projects which are funded under United States Code Title 23 or the Federal Transit Act. Then, on November 30, 1993, the EPA promulgated regulations, known as the General Conformity Regulations (applicable to everything else), to ensure that other federal actions also conformed to SIPs.

The Clean Air Act of 1990 ties conformity to attainment and maintenance of the NAAQS. Thus, a federal action must not adversely affect the timely attainment and maintenance of the NAAQS or emission reduction progress plans leading to attainment. The Clean Air Act of 1990 includes an emphasis of reconciling the emissions from federal actions with the SIP, rather than simply providing for the implementation of SIP measures. This integration of federal actions and air quality planning is intended to protect the integrity of the SIP by helping to ensure that SIP growth projections are not exceeded, emissions reduction progress targets are achieved, and air quality attainment and maintenance efforts are not undermined. To summarize, conformity does not apply to permits.

Comment #5:

Regarding Rule 316 draft October 28, 2004, nothing is said about what to do about violations and how long will it take before penalties are applied? How much pollution is uncontrolled in the meantime?

Response #5:

Violations are not addressed in Rule 316, because violations are addressed in Maricopa County Air Pollution Control Regulations Rule 100-General Provisions And Definitions. If a source is subject to Rule 316, then it is also subject to Rule 100. Rule 100 states that the Maricopa County Environmental Services Department has authority to enforce and administer the Maricopa County Air Pollution Control Regulations.

As part of its enforcement program, the Maricopa County Environmental Services Department, Air Quality Division (as of January 2005, called “Maricopa County Air Quality Department”) issues air quality permits to regulated businesses and determines businesses' compliance with such approved/issued air quality permits. When compliance is <u>not</u> achieved, enforcement action is taken consistent with the Department's Enforcement Policy. According the Department's Enforcement Policy, when a violation is discovered, the Air Quality Inspector issues either a Compliance Status Notification or a Notice Of Violation, if the violation is not corrected at the time of the first inspection. A Notice Of Violation is issued, if the following one of the

following conditions exist: (1) If the business does not have an approved permit; (2) If a Compliance Status Notification has been issued and the follow-up inspection reveals the violation has not been corrected and the violation continues; (3) If the violation results in a major deviation from an air quality standard or requirement; (4) If there is evidence of the business willfully or knowingly violating air quality control laws and regulations; and (5) If there is an actual harm or a significant potential to harm any person, the public health, safety, or welfare, and the environment. If a Compliance Status Notification or a Notice Of Violation has been issued, the Air Quality Inspector conducts a follow-up inspection. If, during the follow-up inspection, the Air Quality Inspector determines that the violation has not been corrected, then the Air Quality Inspector forwards all supporting evidence of the violation to the County Attorney.

If a business is suspected of violating the Maricopa County Air Pollution Control Regulations, inquiries and/or complaints can be made to Maricopa County's Environmental Complaint Line at 602-506-6616. All air pollution-related inquiries and/or complaints are forwarded to Air Quality Inspectors for investigation.

Comment #6:

The proposed revisions to Rule 316 are one of the lengthiest and most complex ever proposed by Maricopa County. Accordingly, the input of the regulate community (i.e., the Arizona Rock Products Association (ARPA) and the Arizona Chapter Associated General Contractors (AGC)) is critical to developing an effective and workable rule. Unfortunately, despite ARPA's extensive efforts and good faith participation in the rulemaking process, ARPA has not been provided a legitimate opportunity to advocate our industry's positions and it appears that our major concerns have been, for the most part, ignored.

Also, industry's input in some areas of Rule 316 fell on deaf ears, particularly when Maricopa County relayed the industry's suggested control measures to the Environmental Protection Agency (EPA) Region IX. Many of the proposed control measures in Rule 316 are technically and economically infeasible and pose implementation challenges and safety hazards to workers on the job.

Response #6:

The revisions to Rule 316 to be adopted June 8, 2005 incorporate best available control measures (BACM) and most stringent measures (MSM) that are included in the revised PM_{10} State Implementation Plan (SIP) - the Final Revised PM_{10} State Implementation Plan For The Salt River Area dated August 2004. This rule applies to nonmetallic mineral processing plants, asphaltic concrete plants, concrete plants and/or bagging operations, concrete block and tile plants, and/or rock product plants. The revisions to Rule 316 will require these facilities to comply with additional process emission limitations and fugitive dust emission limitations and to implement process controls and fugitive dust control measures.

In order to provide opportunities for public involvement in the rulemaking process for Rule 316, the Maricopa County Air Quality Department conducted eight Public Workshops - July 2004 thru December 2004,

received and reviewed comments and recommendations made during the Public Workshops, and created the final draft of Rule 316, which was published in the Arizona Administrative Register on February 4, 2005 in a Notice Of Proposed Rulemaking. In order to receive formal verbal and/or written comments regarding the final draft of Rule 316, the Maricopa County Air Quality Department conducted an oral proceeding on March 10, 2005.

Throughout the rulemaking process, the Maricopa County Air Quality Department has provided the regulated community with opportunities to advocate its position and has not ignored its major concerns. The Maricopa County Air Quality Department reviewed the formal verbal and written comments submitted during the public comment period and at the oral proceeding. The Department has provided responses to these comments in this draft Notice Of Final Rulemaking. In response to some of the comments, the Maricopa County Air Quality Department is proposing additional rule revisions – in addition to the rule revisions proposed in the Notice Of Proposed Rulemaking.

Comment #7:

Along with other industry partners, the Arizona Chapter Arizona General Contractors (AGC) disputes that the sources subjected to proposed rule changes are significant sources to impose such stringent control measures. There are a number of issues that the AGC has with the current proposed Rule 316, such as: (1) Installation of wheel washer system; (2) Immediate street sweeping of trackout for aesthetic purposes versus emission reduction; (3) Blading stockpiles; (4) Covering stockpiles; (5) Geotextile lining; and (6) 25 feet of cumulative trackout.

Response #7:

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_{10} standards from 2001 to 2006. With of this deadline extension, Arizona is required to submit to the EPA a revised PM_{10} State Implementation Plan. The revised PM_{10} State Implementation Plan must 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 and that demonstrate attainment of the 24-hour federal standard for coarse particulate matter air pollution by December 31, 2006. In addition, the EPA requires that best available control measures (BACM) and the most stringent measures (MSM) be applied to similar sources throughout the Maricopa County serious PM_{10} nonattainment area.

The best available control measures (BACM) analysis and the most stringent measures (MSM) analysis required by the EPA's extension of the PM_{10} standards forced the Arizona Department Of Environmental Quality (ADEQ) to review rules and regulations from other jurisdictions across the United States and incorporate those requirements identified as more stringent than current control measures required by local

rules. 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 measure/control measures to choose.

ADEQ did not make determinations upon whether or not the emissions from a single source were considered to be significant or not. According to the modeling analysis presented in the Proposed Revised PM_{10} 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. In the Proposed Revised PM_{10} State Implementation Plan (SIP) For The Salt River Area Technical Support Document, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the national ambient air quality standards for PM_{10} by 2006. All of the sources cited in the comment are included in the industrial source category.

According to the Final Revised PM_{10} State Implementation Plan For The Salt River Area dated August 2004, "Industrial sources with a variety of particulate matter emissions are located throughout the Salt River SIP Study Area. These emissions are categorized into four groups: windblown stockpiles, windblown cleared areas, industrial point sources, and industrial area sources including emissions from material handling, processes, and driving on haul roads. Considering the application of control technologies in accordance with permit requirements, the total emissions generated by the industrial sources in the Salt River SIP Study Area are approximately 1,054,000 pounds per year, based on actual emissions reported in the Maricopa County Environmental Services Department 2002 emissions inventory and on independent calculations of windblown emissions based on six high-wind days with four hours of high wind per day in a year. The following is a partial list of the industrial activities evaluated in the Salt River SIP Study Area: aluminum melting, brick kilns, asphalt batch plants, concrete batch plants, mulch manufacturing, steel fabrication, sand and gravel mining, furniture manufacturing, concrete block manufacturing, and wastewater treatment. Emissions from all of these types of facilities were included in the emissions inventory and the air quality modeling. Although point source (stack) emissions are 38% of the total industrial emissions (not including windblown), the better dispersion from taller stacks diminishes their effect on air quality. For example, only one of the eight exceedances was stack emissions, as opposed to six significant concentrations for industrial area emissions. Within the industrial area category, the combination of haul roads, material transfer, pile forming and loading, and crushing and screening accounts for 91% of the total. Most of these emissions come from sand and gravel operations and their kindred industries, sometimes known as the "nonmetallic mineral products industry". All industrial sources in the Salt River SIP Study Area were evaluated for compliance with BACM or MSM. Only those sources that did not

meet BACM or MSM were evaluated further. Because industrial sources are significant, the vast majority of these emissions come from the nonmetallic mineral products industry, and the current controls on this industry warranted further evaluation, most of the emphasis for the industrial source control measures is on the nonmetallic mineral products processing industry".

Comment #8:

It has been the Arizona Rock Product Association's (ARPA's) understanding that only technically and economically feasible alternative control measures that satisfy the objective outlined in the State Implementation Plan (SIP) would be considered and incorporated into the final rule. Many of the measures in the Notice Of Proposed Rulemaking (NPR) contain options that are not technically or economically feasible and pose implementation challenges from an administrative standpoint. These options include ceasing operations during a wind event, blading to the top of stockpiles in order to maintain dust suppression, and covering stockpiles. Compliance with some of these proposed measures in the Notice Of Proposed Rulemaking would result in safety issues and violation of the rules of other agencies including the Mine Safety And Health Administration.

During the stakeholder process, ARPA provided concrete and abundant information demonstrating that many of the proposals in the NPR are not viable options and would under no circumstances be the option of choice. Several measures are cost-prohibitive. Many are technically infeasible, because either they simply cannot be implemented or they would not result in meaningful emission reductions.

Maricopa County explains that they are only "options", yet if incorporated in Rule 316 they will become most stringent measures (MSM) and best available control measures (BACM). The fact that there may currently be other feasible options available for a specific emission source or activity does not provide the regulatory agency with authorization to also include infeasible measures as "options". These infeasible measures could potentially become the only control measure offered in another jurisdiction that must undergo BACM and MSM analysis in the future. ARPA represents companies that operate nationally and would be susceptible to there non-viable measures somewhere else.

Response #8:

The Maricopa County Air Quality Department revised Rule 316 to add language indicating that covers may be appropriate for storage piles less than eight feet high. The Maricopa County Air Quality Department also removed the specific reference to blading a road to the top of the stockpile and replaced it with text stating, "…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." The Maricopa County Air Quality Department, however, left the text in regarding "ceasing operations in high winds" as the rule applies to other facilities besides ARPA members for which ceasing operations is a reasonable option.

Comment #9:

This process highlights a need not only for improved communication between the regulating agency and the affected community but also between agencies. At the 11th-hour of the process, the Environmental Protection Agency (EPA) Region IX reviewed the proposed rule, disregarded the Arizona Rock Products Association's (ARPA's) concerns, and proposed additional measures just prior to the publishing of the Notice Of Proposed Rulemaking. This action left ARPA with no opportunity to comment or explain its substantial concerns.

It is surprising and disappointing that the ARPA's valuable and unique understanding of its industry was disregarded during the final development of new requirements. ARPA is particularly disappointed that the public was given no right to respond to the EPA Region IX's ideas, especially since the EPA Region IX did not even attend or participate in this process until the final workshop on January 7, 2005.

It is difficult to have a meaningful dialogue with the EPA Region IX to discuss both sides' issues and concerns, when the EPA Region IX does not participate in the workshops. While many consensus changes were made during the lengthy workshop process, much of the exhaustive efforts between stakeholders and local government conducted in a number of the workshops ended fruitlessly, when the EPA Region IX rejected the available control measures solicited from the public and developed from these workshops.

Response #9:

The EPA, as well, as Maricopa County and the regulated industries must all address the specific requirements of the Clean Air Act for Serious PM_{10} nonattainment areas with extension requests. All parties struggled with the concepts and practical application of best available control measures (BACM) and most stringent measures (MSM). The South Coast Air Quality Management District (SCAQMD) also contains a serious PM_{10} nonattainment area with an extension request. SCAQMD was developing a rule at the same time as Maricopa County, which added further complications to Maricopa County's rule revision process. Unfortunately, SCAQMD completed their rule development process for aggregate operations in January of 2005 ahead of Maricopa County adding additional measures that the EPA, Maricopa County, and local stakeholders must address. Maricopa County also remains subject to the timelines necessary for implementing measures under the SIP-call leading the SIP revision for the Salt River Monitor Area. The Maricopa County Air Quality Department has made changes to the rule between proposal and presentation to the Board Of Supervisors.

Comment #10:

Maricopa County has not made a compelling case, legally, financially, or technically, to justify why new measures proposed in Rule 316 should be employed nor have they provided the industry with meaningful data that supports the cost effectiveness of a given measure, in light of such measure's overall ability to reduce emissions. Maricopa County has failed to provide a comprehensive economic and technical review of the

candidate control measures, as required by the Administrative Procedures Act. See Arizona Revised Statutes (ARS) §49-471.04, §49-471.05, and §41-1055. See Portland Cement Association v. Ruckleshaus, 486 F. 2d 375, 393 (D.C. Cir. 1973) – "It is not consonant with the purpose of a rulemaking proceeding to promulgate rules on the basis of inadequate data, or on data that, to a critical degree, is known only to the agency". See also Union Oil Co. Of California v. Federal Power Commission, 542 F. 2d 1036, 1041 (9th Cir. 1976).

Response #10:

Maricopa County disagrees with the commenter. The Final Revised PM_{10} State Implementation Plan (SIP) For The Salt River Area prepared by the Arizona Department Of Environmental Quality (ADEQ) identifies industrial sources as a significant contributor to exceedances of the PM_{10} standard triggering the best available control measures (BACM) and most stringent measures (MSM) requirements for these industrial sources. ADEQ did not make determinations upon whether or not the emissions from a single source were considered to be significant or not. According to the modeling analysis presented in the Proposed Revised PM_{10} 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. In the Proposed Revised PM_{10} State Implementation Plan (SIP) For The Salt River Area Technical Support Document, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the national ambient air quality standards for PM_{10} by 2006.

The plan also contains a list of candidate BACM and MSM measures. Several of the measures the commenter objects to, such as wheel washers, are in use at facilities in other parts of the country. For other measures, the commenter has supplied, since these comments were submitted, the Maricopa County Air Quality Department with information documenting safety concerns regarding blading roads to the top of stockpiles. As a result the Maricopa County Air Quality Department has removed that specific provision from the rule. The Maricopa County Air Quality Department also added qualifying text that covers are an appropriate control option for open storage piles less than eight feet high.

The BACM analysis and the MSM analysis required by the Environmental Protection Agency's (EPA's) extension of the PM_{10} standards forced the ADEQ to review rules and regulations from other jurisdictions across the United States and incorporate those requirements identified as more stringent than current control measures required by local rules. 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 measure/control measures to choose.

Furthermore, most of the fugitive dust work practice standards listed in Rule 316 are not new; they are options in Rule 310. However, Rule 316 does restrict the number of options, in some instances does require combinations of options, and for trackout does reduce the length of trackout to no more the 25 feet. The costs of these work practices were analyzed during the development of Rule 310. The economic analysis does include some updated costs. Item #9-Summary Of The Economic, Small Business, And Consumer Impact in the Notice Of Proposed Rulemaking for Rule 316 did include cost estimates for available controls for an affected facility. Other paragraphs in Item #9 also provided the emissions inventory for affected sources and the estimated percent reduction in emissions associated with the available controls.

Maricopa County is expanding the economic analysis to include a range of cost effectiveness values, since it is very difficult to determine rule effectiveness and to add process level detail in the emissions inventory discussion. Rule effectiveness is an indicator of how consistently sources maintain compliance with a rule. Rule effectiveness accounts for breakdowns, human errors, and operational oversights. While Maricopa County does not require industry to account for rule effectiveness when completing emissions inventories, Maricopa County and the Arizona Department Of Environmental Quality (ADEQ) must account for it when modeling for attainment and estimating the impact of rules. The baseline rule effectiveness is 80% and is the goal to which Maricopa County is striving in order to attain the PM_{10} standard. Reaching 80% is a challenge in a program that relies heavily on work practice requirements to comply with standards. Maricopa County and ADEQ estimate rule effectiveness ranges from 50% - 70%, while the South Coast Air Quality Management District assumes 20%. The expanded calculations range from $5,100 - $11,110 per ton reduced. Choosing 60% current rule effectiveness applied to the Maricopa County facility emission inventory and using the watering and other estimates from the West Coast Environmental And Engineering's analysis of the South Coast Air Quality Management District Proposed Rule 1157 emissions inventory dated January 7, 2005 in a calculated cost of $8,100 if watering is used and $9,250 if dust suppressants are used.

In summary, the EPA granted, in July 2002, Arizona's request to extend the Clean Air Act deadline for attainment of the annual and 24-hour PM_{10} standards from 2001 to 2006. With of this deadline extension, Arizona is required to submit to the EPA a revised PM_{10} State Implementation Plan. The revised PM_{10} State Implementation Plan must 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 and that demonstrate attainment of the 24-hour federal standard for coarse particulate matter air pollution by December 31, 2006. In addition, the EPA requires that BACM and MSM be applied to similar sources throughout the Maricopa County serious PM_{10} nonattainment area. Maricopa County is revising Rule 316 in order to incorporate BACM and MSM as described in the Final Revised PM_{10} State Implementation Plan For The Salt River Area dated August 2004.

Comment #11:

In the October meeting, it was discussed that overburden needed to be addressed for several reasons, which included: (1) Is the removal of overburden covered under Rule 310 or Rule 316? (2) Which party is responsible for emissions, when removing overburden – the operation or contractor? (3) Does the contractor, who is removing overburden, need an earthmoving permit separate from the dust control permit of the site operations? (4) Is the removal of overburden issue contingent on when a mine officially becomes active according to State Mine Inspector's Office? (5) Does the definition of an open storage pile need to be addressed in Rule 316? (6) Should the management/responsibility of overburden be based on a contract between the owner and contractor? Unfortunately, Maricopa County's comments after the November 22, 2005 meeting did not address these questions.

Response #11:

Overburden operation is defined in Rule 316, Section 239 as "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". The requirements/provisions for overburden operations are described in Rule 316, Section 304-Other Associated Operations, in part, as: "…all overburden operations shall, at a minimum, meet the provisions of Rule 310 of these rules". The definition of open storage pile is included in Rule 316, Section 236.

The determination of responsible party for overburden removal will be made on a case-by-case basis. Based on the contractual relationship, interdependence of activities and timing, the owner and/or operator is frequently responsible for dust from overburden removal.

Comment #12:

According to South Coast's Final Staff Report regarding water consumption for unloading/loading/transferring activities and process equipment, the average yearly water consumption for 29 aggregate operations would require 353,802 gallons per day or $367,954 a year to remain in compliance with South Coast Rule 1157, which is not dissimilar to proposed Rule 316. It would also stand to reason that those numbers would be higher due to meteorological conditions specific to Arizona.

The West Coast Environmental (WCE) report states that water usage requirements as stated in South Coast's Final Staff Report were underestimated and should have been 7.5 times higher for a revised total of 2,653,615 gallons per day at a cost of $3,311,586 per year. In a time when facilities are required to conserve water per the Department Of Water Resources, this seems to be a no-win situation. The water rights at many facilities are not sufficient to handle these requirements. Accordingly, any proposed rule provision that mandates a specific water application amount or rate irrespective of the facility's compliance with the 20% opacity standard is technically and economically infeasible.

Response #12:

Where water is an option for dust control in Rule 316, typically the rule states that water is to be applied "as necessary" and does not mandate a specific water application amount or rate. However, there are two sections in Rule 316 that specify percent soil moisture content for a fugitive dust control measure. Maintaining a 1.5% soil moisture content is an option for controlling fugitive dust from open storage piles (see Rule 316, Section 307.1(b)(2)) and is an option for controlling fugitive dust from bulk material that is being transported on-site within the property line of a facility (see Rule 316, Section 307.4(d)(3)).

Comment #13:

In the Notice Of Proposed Rulemaking, Maricopa County has failed to provide a complete analysis of the costs associated with the proposed revisions to Rule 316 and has not included at all a description/explanation of the benefits associated with the proposed revisions to Rule 316. The economic information that has been included in the Notice Of Proposed Rulemaking is insufficient and carries burdensome financial ramifications.

Response #13:

In the draft Notice Of Final Rulemaking for Rule 316, Maricopa County has provided more information regarding available control technologies and Maricopa County emissions inventory. Furthermore, most of the fugitive dust work practice standards listed in Rule 316 are not new; they are options in Rule 310. However, Rule 316 does restrict the number of options, in some instances does require combinations of options, and for trackout reduces the length of trackout to no more than 25 feet. The costs of these work practices were analyzed during the development of Rule 310.

The Notice Of Proposed Rulemaking for Rule 316 did discuss the health care costs and did include the statement, "This conclusion means that even small emission reductions can have immediate benefits to the long-term respiratory health of children living in polluted communities". In the Notice Of Final Rulemaking for Rule 316, Maricopa County has clarified further that reducing health care costs is a benefit of Rule 316 and has added text quantifying health effects.

Comment #14:

In the Notice Of Proposed Rulemaking (pages 21-24), Maricopa County included estimated costs of some of the recommended control technology associated with the implementation of proposed Rule 316, including paving ($350,000 per mile), rumble grates ($5,500 each installed-most properties would require two rumble grates), wheel washers ($60,000 each installed-most properties would require two wheel washers), and stabilizers ($16,107 per mile). These costs do not include water, PM_{10} efficient sweeper rental or purchase, pneumatic control devices, training costs/man-hours, geotextile material, and maintenance of the additional control technology.

Response #14:

In the draft Notice Of Final Rulemaking for Rule 316, Maricopa County has provided more information regarding available control technologies, their costs, and Maricopa County emissions inventory.

Comment #15:

In the Notice Of Proposed Rulemaking, Maricopa County failed to identify the supposed benefits from various control technologies. For example, the Notice Of Proposed Rulemaking fails to identify the emission reductions expected from the imposition of various control technologies and also fails to calculate the expected reduction in emissions per dollar spent in control technology. Without this analysis, it is impossible to determine whether a candidate measure is effective at all – let alone cost effective.

Response #15:

In the draft Notice Of Final Rulemaking for Rule 316, Maricopa County has provided more information regarding available control technologies, their costs, and Maricopa County emissions inventory.

Comment #16:

In the Notice Of Proposed Rulemaking (page 17), Maricopa County included information and studies purportedly relevant to the Notice Of Proposed Rulemaking. Relevant studies and reports that the Arizona Rock Products Association (ARPA) submitted were not added to these citations and ARPA questions whether they were ever reviewed.

Further, one document that did address emissions analysis and control measure efficiency, the South Coast Air Quality Management District's Final Staff Report, included, according to the study performed by West Coast Environmental (WCE), overestimates in emissions factors. WCE found numerous significant errors in the emissions inventory, including: (1) improper use of an industry emissions survey; (2) incorrect selection of emission factors, including failure to use current EPA-approved AP-42 factors; (3) improper material moisture content assumptions; (4) application of control efficiencies across all emission units at all facilities rather than consideration of which facilities implement controls and what level of control can be achieved at each source area; (5) use of annual hours of operation rather than annual throughput; (6) incorrect selection of reporting units; (7) inconsistent application of assumptions and procedures from one facility as compared with others; and (8) incorrect or incomplete understanding of aggregate production operations within the District. The South Coast Air Quality Management District's Final Staff Report is being used by the South Coast Air Quality Management District (South Coast) as well as by Maricopa County to determine emissions inventory analysis, which is a grave concern to ARPA.

Response #16:

Most of the fugitive dust work practice standards listed in Rule 316 are not new; they are options in Rule 310. However, Rule 316 does restrict the number of options, in some instances does require combinations of options, and for trackout reduces the length of trackout to no more than 25 feet. The costs of these work

practices were analyzed during the development of Rule 310. The economic analysis did include some updated costs. Item #9-Summary Of The Economic, Small Business, And Consumer Impact in the Notice Of Proposed Rulemaking for Rule 316 did include cost estimates for available controls for an affected facility. Other paragraphs in that section also provided the emissions inventory for affected sources and the estimated percent reduction in emissions associated with the available controls.

Maricopa County is expanding the economic analysis to include a range of cost effectiveness values, since it is very difficult to determine rule effectiveness and to add process level detail in the emission inventory discussion. Rule effectiveness is an indicator of how consistently sources maintain compliance with a rule. Rule effectiveness accounts for breakdowns, human errors, and operational oversights. While Maricopa County does not require industry to account for rule effectiveness when completing emissions inventories, Maricopa County and the Arizona Department Of Environmental Quality (ADEQ) must account for rule effectiveness when modeling for attainment and estimating the impact of rules. The baseline rule effectiveness is 80% and is the goal to which Maricopa County is striving in order to attain the PM_{10} standard. Reaching 80% is a challenge in a program that relies heavily on work practice requirements to comply with standards. Maricopa County estimates rule effectiveness ranges from 50% - 70%, while the South Coast Air Quality Management District assumes 20%. The expanded calculations range from $5,100 - $11,110 per ton reduced. Choosing 60% current rule effectiveness applied to the Maricopa County facility emission inventory and using the watering and other estimates from the West Coast Environmental And Engineering's analysis of the South Coast Air Quality Management District Proposed Rule 1157 emissions inventory dated January 7, 2005 in a calculated cost of $8,100 if watering is used and $9,250 if dust suppressants are used. In the Notice of Final Rulemaking for Rule 316, the West Coast Environmental And Engineering analysis has been added to the list of studies used in the rule development process.

Comment #17:

In the Notice Of Proposed Rulemaking (page 21), Maricopa County referred to enclosed conveyors. The Arizona Rock Products Association (ARPA) understands that enclosed conveyors are no longer a consideration, but enclosed conveyors never should have been considered when, as stated in the Notice Of Proposed Rulemaking, "have not been employed by any of the aggregate operations in the United States". Most stringent measures (MSM) should be pertinent to a specific industry and not transposed from an unrelated industry. Enclosed conveyors should not be mentioned in the Notice Of Proposed Rulemaking.

Response #17:

In the draft Notice Of Final Rulemaking for Rule 316, Maricopa County has removed the description of enclosed conveyors from Item #9-Summary Of The Economic, Small Business, And Consumer Impact.

Comment #18:

In the Notice Of Proposed Rulemaking (page 29), the total emissions generated by industrial sources numbers are misleading for the following reasons: (1) the emissions are for all industrial sources; (2) the numbers were reported in 2002; (3) emissions control measures have vastly improved; (4) these numbers include high wind days for which Maricopa County should have received exemptions.

Response #18:

The numbers (for total emissions generated by industrial sources) are for 2002, because the technical analysis for the Final Revised PM_{10} State Implementation Plan For The Salt River Area began in 2003; 2002 was the most recent inventory available. The Notice Of Proposed Rulemaking for Rule 316 also included the specific annual emissions associated with Rule 316 (page 26). Maricopa County has not conducted another rule effectiveness study to compare control measures and compliance rates for this industry. The last study was conducted in 2003 and included extensive observations of activities in the Salt River monitor study area.

Contributions from industrial sources to PM_{10} exceedances were highest under low wind conditions. While reductions in PM_{10} emissions from sources subject to Rule 316 will occur under high wind conditions, the reductions will be more significant under low wind conditions. Furthermore, even if high wind exceedance days meet the criteria for natural exceptional events, residents still experience the same health effects at the same level of exposure that they experience under low wind conditions. Reductions in PM_{10} also benefit residents during high wind events.

Comment #19:

In the Notice Of Proposed Rulemaking, Maricopa County cited South Coast's final proposed Rule 1157 (PM_{10} Emission Reductions From Aggregate And Related Operations) dated December 3, 2004 as justification for numerous proposed requirements. South Coast adopted this rule on January 7, 2005. The California Mining Association (CMA) filed suit over South Coast's adoption of this rule on February 9, 2005.

Because South Coast's rule has been challenged in California Superior Court, Maricopa County cannot cite it as the justification for new Maricopa County requirements. In fact, many of the reasons South Coast's rule has been challenged are reasons cited by the Arizona Rock Products Association (ARPA) as problems with the Notice Of Proposed Rulemaking.

Fundamentally, both South Coast's challenged rule and the Notice Of Proposed Rulemaking contain requirements that are not technically or economically feasible. For example, as stated in the CMA's Verified Petition For Writ Of Mandate And Complaint For Declaratory And Injunctive Relief, South Coast's final proposed Rule 1157 emissions inventory is based on un-scientific, voluntary, and un-verified surveys resulting in an emissions inventory inflated by a factor of almost twenty (20).

Response #19:

Until the California Superior Court resolves the challenge made to South Coast's Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations as adopted January 7, 2005, the standards and fugitive dust control measures in Rule 1157 are still lawful and Maricopa County can cite Rule 1157 as the justification for new Rule 316 requirements. If the California Superior Court deems any and/or all of the standards and/or fugitive dust control measures in Rule 1157 as un-lawful, then Maricopa County will conduct another rulemaking process to revise Rule 316 accordingly.

Comment #20:

In the Notice Of Proposed Rulemaking, Maricopa County stated that proposed Rule 316 "must include control strategies that meet the best available control measure (BACM) test and the most stringent measure (MSM) test for significant sources and source categories". The Arizona Rock Products Association (ARPA) does not disagree with this statement. ARPA disputes that the sources subject to proposed rule changes are significant sources.

In particular, ARPA has submitted documentation demonstrating that storage piles, material handling, and transfer points are not significant sources of particulate matter. Further, to the extent trackout and other fugitive dust sources are significant sources, these sources are already governed by Maricopa County's Rule 310 (Fugitive Dust), which has already been deemed to meet BACM and MSM. Accordingly, revisions to Rule 310 fugitive dust control requirements are duplicative and un-necessary. In fact, it is inappropriate and unlawful to revise Rule 310 requirements by incorporating additional restrictions on trackout and other fugitive dust sources in Rule 316.

As currently written, Rule 316, like the federal New Source Performance Standards, applies only to nonmetallic mineral mining process sources. Neither imposes requirements on sources, such as storage piles, roads, and trackout. It is irrelevant that other jurisdictions may include restrictions on fugitive sources in their rules for mining process sources. Maricopa County regulates process and fugitive dust sources separately and Maricopa County does not need to revise fugitive dust regulations as incorporated in Rule 310.

In fact, Maricopa County's proposal to include fugitive dust control requirements in both Rule 310 and Rule 316 would create a confusing and occasionally contradictory suite of requirements that will inevitably lead to compliance un-certainty and enforcement inconsistency. Because a BACM analysis and an MSM analysis are not now required for these sources, Maricopa County's purported justification for many of the proposed requirements in the Notice Of Proposed Rulemaking is invalid. The Notice Of Proposed Rulemaking violates Arizona Revised Statutes (ARS) §49-112.

Response #20:

The Arizona Department Of Environmental Quality (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_{10} 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 and each activity, 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. In the Proposed Revised PM_{10} State Implementation Plan (SIP) For The Salt River Area Technical Support Document, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the national ambient air quality standards for PM_{10} by 2006.

The best available control measures (BACM) analysis and the most stringent measures (MSM) analysis required by the EPA's extension of the PM_{10} standards forced ADEQ to review rules and regulations from other jurisdictions across the United States and incorporate those requirements identified as more stringent than current control measures required by local rules. 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 measure/control measures to choose.

As currently written, Rule 316 does not implement MSM for the nonmetallic mineral processing sources, as the serious area PM_{10} nonattainment area plan did not identify those sources as significant contributors. ADEQ identified the requirement that prohibits visible emissions from crossing the property line. Therefore, that new opacity requirement will apply to both process emissions and fugitive dust emissions in addition to the other opacity standards in the rule. The fugitive dust opacity standards from Rule 310 carried over to Rule 316 remain applicable to sources of emission such as, but not limited to, unpaved haul roads and storage piles. Each of these opacity requirements are included in Rule 316 in order to provide Maricopa County and ADEQ with reasonable assurance that the particulate matter emissions limitations associated with such activities are being met on a continuous basis. The requirement that no visible emissions cross the property boundary is included to provide Maricopa County and ADEQ with reasonable assurance that emissions from the facility in general are well controlled and, when considered with the emissions of other facilities, are not contributing significantly to the area's nonattainment status. The work practice requirements included in Rule 316 are some of the methods by which the owner and/or operator of a facility can reduce emissions and provide Maricopa County with reasonable assurance that the non-visible emissions at the property boundary requirement is being complied with on a continuous basis. Since the property boundary opacity standard applies to fugitive dust activities, Maricopa County included fugitive dust control measures in Rule 316 to clearly express all requirements that apply to the fugitive dust sources at nonmetallic mineral processing sources.

It is not inappropriate or unlawful to revise rule requirements based on the revised Salt River SIP to implement BACM and MSM and obtain the emission reductions necessary to demonstrate attainment of the PM_{10} standard. Furthermore, since significant contribution is identified at the industrial source category and not the individual source or source activity level, Maricopa County's justification is valid and complies with Arizona Revised Statutes (ARS) §49-112.

Comment #21:

On February 9, 2005, the California Mining Association (CMA) filed suit regarding South Coast's adoption of Rule 1157. Until the CMA's judicial appeal has been fully and completely adjudicated, it is premature and unlawful for Maricopa County to assert that South Coast Rule 1157 requirements are best available control measures (BACM) and most stringent measures (MSM).

Response #21:

Until the California Superior Court resolves the challenge made to South Coast's Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations as adopted January 7, 2005, the standards and fugitive dust control measures in Rule 1157 are still lawful and Maricopa County can cite Rule 1157 as the justification for new Rule 316 requirements. If the California Superior Court deems any and/or all of the standards and/or fugitive dust control measures in Rule 1157 as un-lawful, then Maricopa County will conduct another rulemaking process to revise Rule 316 accordingly.

Comment #22:

The Arizona Rock Products Association (ARPA) disagrees with Maricopa County's definition of most stringent measures (MSM), which is as follows: "MSM are the most stringent measures that are included in any state implementation plan and/or that are being implemented in any state and/or that are economically and technologically feasible for the nonattainment area in question".

Maricopa County substitutes the words "and/or" and erroneously makes economic and technologic feasibility an option for MSM, not a requirement. In doing so, Maricopa County's definition of MSM contradicts the Clean Air Act, conflicts with the Environmental Protection Agency's (EPA's) own MSM definition, violates multiple state statutes, and, in effect, would force existing sources to implement lowest achievable emission rate (LAER)-type controls that should only be applicable in accordance with new source review in nonattainment areas.

According to the EPA in 65 Federal Register (FR) 19968, most stringent measures are "the maximum degree of emission reduction that has been required or achieved from a source or source category in other State Implementation Plans (SIPs) or in practice in other states and can feasibly be implemented in the area".

Accordingly, Maricopa County must consider both economic and technical feasibility when identifying MSM. It is not enough to simply include a measure used in another jurisdiction without conducting a Maricopa

County-specific economic and technical feasibility analysis. The reasons Arizona law requires a Maricopa County-specific analysis are simple and straightforward. First, there is no guarantee that other jurisdictions conducted the analyses required by Arizona law, when they adopted various requirements. Maricopa County's own attempt to include infeasible controls as options in the Notice Of Proposed Rulemaking demonstrates that a jurisdiction might include requirements that are neither economically nor technically feasible. Second, a fundamental tenet of due process requires that affected members of the public be provided a meaningful opportunity to comment on proposed rules. ARPA's and its members' due process rights are simply not upheld by another jurisdiction's rulemaking process.

By failing to conduct an analysis of the economic and technological feasibility of proposed measures, proposed Rule 316 violates the following list of statutes, preambles, and SIPs (this list is not exhaustive): (1) CAA §188(e)-Statute requires the State to demonstrate that "the plan for that area includes the most stringent measures that are included in the implementation plan of any State or are achieved in practice by any State, and can feasibly be implemented in the area". (2) 67 FR 48723. (3) A.R.S. §41-1055-Statute requires Impact Statement that includes "…the probable costs and benefits to businesses directly affected by the proposed rulemaking". (4) A.R.S. §49-112-Statute requires "credible evidence that the rule, ordinance, or other regulation is…necessary to prevent a significant threat to public health or the environment that results from peculiar local condition and is technically and economically feasible" or required by federal statute. (5) A.R.S. §49-471.05-Statute requires that rule preamble include "economic, small business, and consumer impact statement". (6) Final Revised State Implementation Plan For The Salt River Area-Plan defines MSM as "the most stringent measures included in any state implementation plan or being implemented in any state that are economically and technologically feasible for the nonattainment area in question".

As previously discussed, the Notice Of Proposed Rulemaking fails to provide a sufficient analysis of the economic and technological feasibility of proposed control measures. Adoption of Rule 316 without this analysis would be unlawful.

Response #22:

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_{10} standards from 2001 to 2006. With of this deadline extension, Arizona is required to submit to the EPA a revised PM_{10} State Implementation Plan. The revised PM_{10} State Implementation Plan must 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 and that demonstrate attainment of the 24-hour federal standard for coarse particulate matter air pollution by December 31, 2006. In addition, the EPA requires that best available control measures (BACM) and the most stringent measures (MSM) be applied to similar sources throughout the Maricopa County serious PM_{10} nonattainment area.

The best available control measures (BACM) analysis and the most stringent measures (MSM) analysis required by the EPA's extension of the PM_{10} standards forced the Arizona Department Of Environmental Quality (ADEQ) to review rules and regulations from other jurisdictions across the United States and incorporate those requirements identified as more stringent than current control measures required by local rules. 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 measure/control measures to choose. The standards ADEQ drew from were not LAER standards. ADEQ drew from rules in Texas, Florida, and South Coast Air Quality Management District that are applicable to existing sources not just new sources and from BACT determinations for new sources following the EPA guidance.

According to the modeling analysis presented in the Proposed Revised PM_{10} 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. In the Proposed Revised PM_{10} State Implementation Plan (SIP) For The Salt River Area Technical Support Document, ADEQ has made the demonstration that when all of the proposed control measures and work practice standards are applied collectively, the ambient concentrations of PM_{10} in the study area will demonstrate compliance with the national ambient air quality standards for PM_{10} by 2006.

Furthermore, most of the fugitive dust work practice standards listed in Rule 316 are not new; they are options in Rule 310. However, Rule 316 does restrict the number of options, in some instances does require combinations of options, and for trackout does reduce the length of trackout to no more the 25 feet. The costs of these work practices were analyzed during the development of Rule 310. The economic analysis does include some updated costs. Item #9-Summary Of The Economic, Small Business, And Consumer Impact in the Notice Of Proposed Rulemaking for Rule 316 did include cost estimates for available controls for an affected facility. Other paragraphs in Item #9 also provided the emissions inventory for affected sources and the estimated percent reduction in emissions associated with the available controls.

Maricopa County is expanding the economic analysis to include a range of cost effectiveness values, since it is very difficult to determine rule effectiveness and to add process level detail in the emissions inventory discussion. Rule effectiveness is an indicator of how consistently sources maintain compliance with a rule. Rule effectiveness accounts for breakdowns, human errors, and operational oversights. While Maricopa County does not require industry to account for rule effectiveness when completing emissions inventories, Maricopa County and the Arizona Department Of Environmental Quality (ADEQ) must account for it when modeling for attainment and estimating the impact of rules. The baseline rule effectiveness is 80% and is the goal to which Maricopa County is striving in order to attain the PM_{10} standard. Reaching 80% is a challenge in a program that

relies heavily on work practice requirements to comply with standards. Maricopa County and ADEQ estimate rule effectiveness ranges from 50% - 70%, while the South Coast Air Quality Management District assumes 20%. The expanded calculations range from $5,100 - $11,110 per ton reduced.

Comment #23:

The purported justification for many of the proposed requirements in the Notice Of Proposed Rulemaking is South Coast's final proposed Rule 1157 dated December 3, 2004. The California Mining Association (CMA) filed suit over South Coast's adoption of this rule on February 9, 2005. Pursuant to A.R.S. §49-112, most stringent measures (MSM) and best available control measures (BACM) requirements, and the Arizona Administrative Procedures Act, Maricopa County cannot cite a challenged law as the justification for new Maricopa County requirements. In fact, many of the reasons South Coast's rule has been challenged are reasons cited by the Arizona Rock Products Association (ARPA) as problems with the Notice Of Proposed Rulemaking. Fundamentally, both South Coast's challenged rule and the Notice Of Proposed Rulemaking contain requirements that are not technically or economically feasible. Because adoptions of provisions drawn from South Coast's Rule 1157 would violate numerous statutory and regulatory provisions, Maricopa County cannot include those measures in final Rule 316.

Response #23:

Until the California Superior Court resolves the challenge made to South Coast's Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations as adopted January 7, 2005, the standards and fugitive dust control measures in Rule 1157 are still lawful and Maricopa County can cite Rule 1157 as the justification for new Rule 316 requirements. If the California Superior Court deems any and/or all of the standards and/or fugitive dust control measures in Rule 1157 as un-lawful, then Maricopa County will conduct another rulemaking process to revise Rule 316 accordingly.

Furthermore, most of the fugitive dust work practice standards listed in Rule 316 are not new; they are options in Rule 310 today. However, Rule 316 does restrict the number of options, in some instances does require combinations of practices that were formerly only options, and for trackout does reduce the length of trackout to no more the 25 feet. The costs of these work practices were analyzed during the development of Rule 310. The economic analysis does include some updated costs.

Comment #24:

The Arizona Rock Products Association (ARPA) has serious reservations about proposed Rule 316 that as currently crafted would regulate every phase of the industry. Proposed Rule 316 has metamorphosed from a rule imposing emissions limitations to a rule that would prescribe control measures that must be implemented without taking into consideration the countless conditions that come into play.

Nowhere in proposed Rule 316 is there language that allows the owner to develop and implement equivalent or possibly more superior control measures for their individual location. Site owners should be encouraged and provided incentives to develop innovative ways in which to reduce particulate emissions versus adhering to prescriptive measures that in some locations can not be achieved.

Many of the measures in proposed Rule 316 are arbitrary and far too prescriptive. This panacea approach will be problematic for the rock products industry from a technical and economic standpoint. Some of the proposed measures in Rule 316 are onerous and do not take into account the complexities of the rock products industry that would limit flexibility within individual operations and make compliance difficult to achieve. Further, the mandated control measures proposed in Rule 316 have been taken from around the country and do not take into account the differences in the industry on a regional basis. Some proposed measures are simply infeasible regardless of location.

As currently proposed, Rule 316 not only imposes certain measures without consideration of local factors and economic and technical feasibility, but also stifles future control measure innovations, because it provides no opportunity for the regulated community to develop new control technologies. ARPA would like to see language added to proposed Rule 316 that would allow operations some autonomy regarding how they will achieve the necessary emission controls that would be mandated by proposed Rule 316. Such rule language would provide benefits to all, because it would foster control technology innovation by allowing regulated companies to develop and implement improved control measures that address the specific and unique conditions they face.

Including a provision in proposed Rule 316 that includes allowance for alternative measures that achieve equivalent or better emissions control would provide operations with the opportunity to demonstrate why a control measure is not possible, applicable, or effective in a specific situation and make a showing of an equivalent or better alternative the would meet the requirements of proposed Rule 316. The industry would not be asking for a different standard but rather the ability to employ equivalent measures to meet the same requirements.

At the Public Workshop conducted on January 7, 2005, Maricopa County orally committed to including a contingency into the proposal that would address this reasonable request. However, there was no subsequent inclusion of this provision in the Notice Of Proposed Rulemaking. Proposed Rule 316 does contain specific citations where authority to accept alternative approaches is granted to the residing Control Officer or Administrator of the Environmental Protection Agency (EPA). Recently revised Arizona Administrative Code (AAC) R18-2-702 and Rule 310 provide similar flexibility. ARPA would like this option specifically identified as being applicable throughout the rule rather than just in the specified citations.

It stands to reason that the EPA, State, and Maricopa County would encourage innovative control measures that go beyond the industry standard. ARPA is requesting that these decisions be made a on a case-by-case basis

and is left to the discretion of the Control Officer and be included in the Dust Control Plans. Accordingly, ARPA recommends that Maricopa County add the following text to proposed Rule 316: "Alternative Control Measures And Test Methods: A source may petition the Control Officer for the use of alternative control measures or testing methods with respect to any provision of this rule. The petition shall include: a. The proposed alternative control measure or test method. b. The control measure or test method that the alternative would replace. c. A detailed statement or report demonstrating the following: 1. For alternative control measures, a demonstration that the measure would result in equivalent or better emission control than the measures prescribed in the rule. 2. For alternative test methods, a demonstration that the method would result in equivalent or better quantification of applicable parameters than the method prescribed in the rule. Nothing in this rule shall be construed to prevent a source from making such demonstration. The Control Officer shall act on a petition submitted pursuant to this section within 90 days. Following a decision by the Control Officer to grant the petition, the source must incorporate the alternative control measure in any required Dust Control Plan. A decision by the Control Officer to deny the petition is subject to review pursuant to Arizona Revised Statutes (ARS) §49-471.15".

Response #24:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to add, in the final/adopted version of Rule 316, text that allows the owner and/or operator of a facility subject to Rule 316 to develop and implement alternative dust control measures – alternative to those required by Rule 316.

Comment #25:

The Arizona Rock Products Association (ARPA) requests that no visible emissions be deleted from Rule 316, Section 303.2(d)(4) and Section 303.2(d)(5)–Concrete Plants And/Or Bagging Operations-Process Emission Limitations And Controls (The owner and/or operator of a concrete plant and/or bagging operation shall implement the following process sources…On dry mix concrete plant loading stations/truck mixed product, implement one of the following process controls…Enclose mixer loading stations such that no visible emissions occur; or…Conduct mixer loading stations in an enclosed process building such that no visible emissions from the building occur during the mixing activities).

As written, this suggests that this area of the facility has a different opacity standard from the rest of the operation. "No emissions" implies that an enforcement action will take place if any visible emissions occur. ARPA understands that there is a 20% opacity standard on all fugitive emissions. Further, Maricopa County has not shown that a 'no visible emissions' requirement is technically feasible.

Response #25:

Enclosures, both full and partial, exhibit a high level of capture and control. An emissions source can be completely enclosed by relocating the source from outside to inside a building or by constructing an enclosure

around it, thereby preventing emissions to the atmosphere. Emissions sources that can be controlled by this method include plant feeding, handling, crushing, and screening operations; concrete batch plant mixer loading and concrete batch truck loading; sand/aggregate transfer to conveyors and other areas; transit mix trucks loading; and materials transfer points. Filter systems, mixer loading, and batch truck loading emissions control devices must meet a performance standard of no visible emissions exceeding 30 seconds in any six-minute period as determined using the Environmental Protection Agency (EPA) Test Method 22.

Comment #26:

All proposed control measures must be technically and economically feasible. The Arizona Rock Products Association (ARPA) still maintains that ceasing operations during a high wind event, as written in Rule 316, Section 306.3(c)(1)(a)–Fugitive Dust Emission Limitations-Wind Event, is not an economically viable option for facilities and should not be in the rule, especially if the necessary stabilization requirements are met.

Ceasing operations is a challenge for the aggregate industry and, while only an option (one of two), the exemption only applies if aggregate operators can prove that the project where their material is used by a ready-mix or asphalt batch plant would be irreparably harmed by ceasing during high winds. This proof is only known to the batch plant not to the aggregate operator. This information would be difficult to determine in all cases. In addition, Arizona Department Of Transportation contracts and those of municipalities impose steep penalties, if materials are not timely provided. Also, building code requirements, as outlined in the California Mining Association's (CMA's) lawsuit, are another example of the economic infeasibility of this provision.

The harm is obvious: numerous Arizona construction and safety laws recognize that cold joints create structural integrity and safety problems. The Notice Of Proposed Rulemaking fails to consider the costs associated with ceasing operations and fails to demonstrate how ceasing operations would be economically feasible. ARPA requests that the language and exemption be stated clearly to avoid confusion or unnecessary product liability issues or unworkable conditions.

Response #26:

With the revisions to Rule 316, Rule 316 will require compliance with emission limitations and the implementation of process controls and fugitive dust control measures by any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Ceasing operations during a high wind event is one fugitive dust control measure that could be chosen to control dust emissions during a high wind event. A facility may choose to cease operations during a high wind event or may choose another option due to site-specific and/or material-specific conditions and logistics of a facility. Also, a facility may submit a request to the Control Officer and the Administrator Of The Environmental Protection Agency (EPA) to use an alternative control measure(s).

While Rule 316 includes ceasing operations as an option for controlling fugitive dust during a high wind event, the South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005 does not provide/include such option. The South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005 provides that, "…if qualified, operators can continue to produce and deliver their product on high wind days and will not be required to meet opacity and visible dust plume requirements of Rule 1157. This limited provision affects ready-mix and hot mix asphalt operations and the loading and transport of aggregate materials to supply these facilities when a continuous pour or a construction project has commenced during a period of high winds. No other type of aggregate operations will be able to continue to operate and still be exempt from these performance standards during high winds. Operators should be aware that they can continue all operations as long as they meet the performance standards".

Per the South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005, <u>during high winds, the operator of a facility/operation will be exempt from not being allowed (or will be allowed) to cause or allow a discharge into the atmosphere of fugitive dust emissions</u> exceeding 20% opacity from any activity, equipment, storage pile, or disturbed surface area, based on an average 12 consecutive readings using the SCAQMD Opacity Test Method No. 9B or will be exempt from not being allowed (or will be allowed) to discharge into the atmosphere fugitive dust emissions exceeding 50% opacity from any activity, equipment, storage pile, or disturbed surface area, based on five individual, consecutive readings, using the SCAQMD Opacity Test Method No. 9B, effective December 3, 2005 or will be exempt from not being allowed (or will be allowed) any visible fugitive dust plume from exceeding 100 feet in any direction from any activity, equipment, storage pile, or disturbed surface area, <u>if all activities and/or equipment are ceased, except for dust controls.</u>

Also per the South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005, <u>the activities and/or equipment at the ready-mix concrete and hot mix asphalt facilities that produce materials for use in a construction project that is being paved or poured during high winds are not required to cease operations during high winds</u>, <u>provided the operator</u> of the operation or activity <u>demonstrates</u>, at the Executive Officer's request, <u>that irreparable damage to the construction project would occur if such operations are ceased during high winds</u>.

Also per the South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005, the loading and transport of aggregate materials directly to ready-mix concrete and hot mix asphalt facilities that produce materials for use in a construction project that is being paved or poured during high winds are <u>not required to cease operations during high winds</u>, provided the operator of the operation or activity demonstrates, at the Executive Officer's request, that irreparable damage to the construction project would occur if such operations are ceased during high winds.

Comment #27:

Stockpiles are active and routinely change shape or position. Being so, stockpiles cannot be covered, as required in Rule 316, Section 306.3(c)(2)(b)-Fugitive Dust Emission Limitations-Wind Event (The fugitive dust emission limitations described in Section 306.1 (20% opacity limitation) and Section 306.2 (visible emission limitation beyond the property line) of this rule shall not apply during a wind event, if the owner and/or operator of a facility…has…for an open storage pile…cover[ed] open storage pile with tarps, plastic, or other material such that wind will not remove the covering).

Covering stockpiles would create inherent safety and logistical issues. The Arizona Rock Products Association (ARPA) members will not ask their employees to scale large stockpiles and attempt to place tarps over them at any time – let alone during a major wind event. The rock products industry does not consider this measure a viable option for our operations under any circumstances – not to mention the ramifications with the Mine Safety And Health Administration.

ARPA has worked-with Maricopa to develop equivalent alternatives and would like to see this measure stricken from proposed Rule 316. Alternatively, ARPA requests to see a qualifier placed in this language that this option was intended for small piles, as stated by Maricopa County Staff in the Public Workshops, rather than large working stockpiles that are representative of our industry. ARPA recommends that Rule 316 specifically identify small piles as those stockpiles that are less than eight feet tall and less than 500 cubic yards.

If this issue pertains to contaminated materials, as has been mentioned during Public Workshops, it is a solid waste issue and does not pertain to PM_{10} emissions. There are applicable Arizona Department Of Environmental Quality (ADEQ) regulations that address solid waste. Maricopa County does not have the statutory authorization to regulate solid waste through Rule 316.

Response #27:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to add, in the final/adopted version of Rule 316, the text "if open storage pile is less than eight feet high". As originally proposed Rule 316 required open storage piles – regardless of size – to be covered, as a fugitive dust control measure. However, since covering open storage piles can be a safety hazard and can be difficult due to the non-static/changeable nature of open storage piles, Rule 316 will require covering open storage piles, only if open storage piles are less than eight feet high. If open storage piles are more than eight feet high, then Rule 316 will allow other options for fugitive dust control.

Comment #28:

The Arizona Rock Products Association (ARPA) would like to remind Maricopa County again that using dust suppressants near stockpiles, as required in Rule 316, Section 307.1(a)–Fugitive Dust Control Measures-Open Storage Piles And Material Handling (…prior to, and/or while conducting stacking, loading, and unloading

operations…spray material with water, as necessary; or spray material with a dust suppressant other than water, as necessary), is not technically feasible when trying to maintain certain material specifications. Water is a more acceptable option, but if water is not available, another option should be considered. ARPA would like the list to include "or other stabilization control as approved in the Dust Control Plan".

Response #28:

With the revisions to Rule 316, Rule 316 will require compliance with emission limitations and the implementation of process controls and fugitive dust control measures by any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Spraying material with a dust suppressant other than water, as necessary, while conducting stacking, loading, and unloading operations is one fugitive dust control measure that could be chosen to control dust emissions from open storage piles and material handling. A facility may choose to spray material with a dust suppressant or may choose another option due to site-specific and/or material-specific conditions and logistics of a facility. Also, a facility may submit a request to the Control Officer and the Administrator Of The Environmental Protection Agency (EPA) to use an alternative control measure(s).

Comment #29:

As written in Rule 316, Section 307.1(d)(1)–Fugitive Dust Control Measures-Open Storage Piles And Material Handling (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 road that is bladed to the top of such open storage pile(s) to allow water truck access. If such open storage pile(s) are composed of aggregate base course (ABC), then this fugitive dust control measure is not applicable), blading to the top of an open storage pile is not an option for ABC piles. However, blading may not be an option for other storage piles as well. The Arizona Rock Products Association (ARPA) would like language in Rule 316 to reflect that blading is not applicable for all open storage piles.

Another option listed is to have a sprinkler system that is capable of coverage - Rule 316, Section 307.1(d)(2)-Fugitive Dust Control Measures-Open Storage Piles And Material Handling (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 sprinkler irrigation system that is capable of complete open storage pile(s) coverage). This measure is not technically feasible or necessary as the locations and sizes of active stockpiles are not static.

Response #29:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to delete, in the final/adopted version of Rule 316, Section 307.1(d)(1) and Section 307.1(d)(2) and to move Section

307.1(d)(3) to the introduction of Section 307.1(d). Blading to the top of open storage piles or installing a sprinkler irrigation system on open storage piles were included in Rule 316 as options for fugitive dust control. However, since blading to the top of open storage piles can be a safety hazard and since installing a sprinkler irrigation system on open storage piles is difficult due to the non-static/changeable nature of open storage piles, such options will be deleted from Rule 316.

Comment #30:

The Arizona Rock Products Association (ARPA) would like to see Rule 316, Section 307.3(a)(7)–Fugitive Dust Control Measures-Haul/Access Roads (The owner and/or operator of a facility shall…before engaging in the use of, or in the maintenance of, haul/access roads…limit vehicle speeds) stand alone or see the pairing of speed limits with the addition of water as necessary to comply with Rule 316, Section 306.1.

Response #30:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to delete, in the final/adopted version of Rule 316, Section 307.3(a)(7) and to add such text to Section 307.3(a)(2), which will entail combining the fugitive dust control measures for haul/access roads – limiting vehicle speeds and applying water, as necessary.

Comment #31:

Rule 316, Section 307.4(d)(2)–Fugitive Dust Control Measures-On-Site Traffic (The owner and/or operator of a facility, when hauling and/or transporting bulk material on-site within the property line of a facility, shall…cover haul trucks with a tarp or other suitable closure) was added in the fifth draft and did not allow for sufficient discussion or time to prepare technical comment. The measures described in Section 307.4(d)(2) are too restrictive and as long as aggregate operations meet the opacity standard of Section 306.1 (Fugitive Dust Emission Limitations-20% Opacity Limitation), there should be a reasonable degree of flexibility on how operators choose to maintain compliance.

In addition, Section 306.1 does not require a 1.5% soil moisture content. Aggregate haul trucks are too massive to tarp and having a portable water source is problematic. This stipulation is from Rule 310 and is specifically aimed-at the construction industry. The “on-site” addition is not administratively or technically feasible for aggregate operations. The Arizona Rock Products Association (ARPA) requests that Section 307.4(d) be stricken.

Response #31:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to delete, in the final/adopted version of Rule 316, Section 307.4(d). Although deleting Section 307.4(d) deletes the specific fugitive dust control measures for hauling and/or transporting bulk material on-site from Rule 316, such fugitive dust control measures will still be required under Rule 316, Section 304, which states “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".

Comment #32:

The Arizona Rock Products Association (ARPA) would like to see an enforcement initiative from Maricopa County to address the issue of independents and contracted trucks that are out-of compliance off-site, in regards to the requirement written in Rule 316, Section 307.5(b) and Section 307.5(c)-Fugitive Dust Control Measures-Off-Site Traffic (When hauling and/or transporting bulk material off-site, the owner and/or operator of a facility shall…prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s) and cover haul trucks with a tarp or other suitable closure).

In addition, ARPA maintains that the operations cannot be held liable/responsible for the actions of independents off-site. This provision is analogous to a law making operations for the off-site speeding tickets of independent drivers or a law making a grocery store liable when a customer throws a grocery bag along the roadway. Because the operations have no control of independent and contracted trucks once they leave the property, this provision is not only technically infeasible, but it also violates operations' due process rights and is unlawful.

Based on the December 2004 meeting, ARPA was expecting to receive a formal statement from Larry Spivack on this issue. To date, ARPA has not yet received this communication. At a minimum, "of a facility" should be deleted from Section 307.6(d) and replaced with "of the haul truck".

Response #32:

The terms owner and operator are standard rule language and serve to identify and assign responsibility to ensure compliance with the provisions of a rule to the individuals who own and/or operate equipment that generates emissions. If an individual other than the owner and/or operator is involved in a dust generating activity, then the applicable rules and requirements will be applied to the activity. If an individual other than the owner and/or operator is responsible for a dust generating activity and is conducting such activity out-of compliance with Rule 316, then Maricopa County will consider the following factors when determining who is responsible for such emissions. These factors include, but are not limited to, whether the owner and/or operator has provided that individual with a copy of the air pollution control permit and the Dust Control Plan, there is no evidence to indicate that the owner and/or operator had any control over that individual, and that there is no evidence to indicate that any portion of the dust generating activity occurred while under the control of the owner and/or operator.

Comment #33:

As written in Rule 316, Section 307.6(a)-Fugitive Dust Control Measures-Trackout-Rumble Grate And Wheel Washer, a rumble grate and wheel washer must be installed, maintained, and used for new permanent facilities and/or for existing permanent facilities 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.

The Arizona Rock Products Association (ARPA) has not seen any evidence that a wheel washer is effective in preventing trackout. Some sites, such as ready-mix and asphalt plants, do not even have the room to put-in wheel washers, making this option technically infeasible. ARPA maintains that wheel washers do not reduce emissions proportionate to the costs involved in employing them. ARPA, therefore, requests to see Maricopa County's technical and economic analysis that supports the reasoning behind this option.

In addition, introducing water to dirt only further exacerbates the trackout problem. During the January 7, 2005 conference call with the Environmental Protection Agency (EPA), a member of the EPA explained that a wheel washer was necessary because rumble grates become loaded with material as a result of heavy traffic and therefore are ineffective. Maricopa County agreed with ARPA that a rumble grate would be sufficient, if freeboard is maintained rather than add an additional control measure as a back-up.

It was ARPA's understanding from the Public Workshop that an option to maintain the rumble grates would be addressed in the Dust Control Plan and/or Operations And Maintenance Plan language, but no subsequent change was made. ARPA would like Maricopa County to include an option in Rule 316 that specifically allows facilities to use rumble grates on the condition that 3" of freeboard is maintained on all rumble grates.

ARPA contends that industry should choose what technology and in what combination is acceptable to address trackout control.

Response #33:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to add, in the final/adopted version of Rule 316, the term "conditions" and to add the following sentence to the end of Section 307.6(a): "For the purpose of this rule, a vehicle wash and/or a cosmetic wash may be substituted for a wheel washer, provided such system has at least xx pounds per square inch (psi) water spray from the nozzle (i.e., uses either 25-45 gallons per minute water volume or 25-65 psi 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, and is approved in the Dust Control Plan for the facility".

A recent trackout study conducted by the Arizona Department Of Environmental Quality (ADEQ) in September 2003 again found the heaviest silt loading values for roadways occurred in industrial areas. As a result, the work practice options for industry are being restricted to provide additional assurance that sources are operating in continuous compliance with the standards in Rule 316.

Comment #34:

In Rule 316, Section 307.6(b)(4)-Fugitive Dust Control Measures-Trackout-Rumble Grate, Wheel Washer, Or Truck Washer (The owner and/or operator of a facility…shall install, maintain, and use a rumble grate, wheel washer, or truck washer in accordance with all of the following…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), Maricopa County should delete the term 'all'.

Response #34:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to delete, in the final/adopted version of Rule 316, the geotextile lining requirement from Section 307.6(b)(4)(b). Also, Maricopa County is proposing to delete Section 307.6(b)(4)(c) and to add such text to Section 307.6(b)(4)(a) and Section 307.6(b)(4)(b). Consequently, a gravel pad will have to 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, will have to be flushed with water or completely replaced as necessary, and will have to have a gravel pad stabilizing mechanism/device (i.e., curbs or structural devices along the perimeter of the gravel pad).

Comment #35:

The measure in Rule 316, Section 307.6(b)(4)(b)-Fugitive Dust Control Measures-Trackout-Rumble Grate, Wheel Washer, Or Truck Washer (The owner and/or operator of a facility…shall install, maintain, and use a rumble grate, wheel washer, or truck washer in accordance with all of the following…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:…gravel pad shall have a geotextile lining underneath the washed gravel, rock, or crushed rock or shall have an equivalent gravel pad stabilizing mechanism/device (i.e., curbs or structural devices along the perimeter of the gravel pad)) is technically and economically infeasible.

Geotextile lining is not necessary or effective for this application. As long as the gravel pad is maintained to a 6" depth, the gravel pad should meet the requirements.

Response #35:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to delete, in the final/adopted version of Rule 316, the geotextile lining requirement from Section 307.6(b)(4)(b). Also, Maricopa County is proposing to delete Section 307.6(b)(4)(c) and to add such text to Section 307.6(b)(4)(a) and Section 307.6(b)(4)(b). Consequently, a gravel pad will have to 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, will have to be flushed with water or completely replaced as necessary, and will have to have a gravel pad stabilizing mechanism/device (i.e., curbs or structural devices along the perimeter of the gravel pad).

Comment #36:

Rule 316, Section 307.6(c)-Fugitive Dust Control Measures-Trackout-Exemptions For Wheel Washers states that if an operator chooses to use a rumble grate that the road from the rumble grate to the roadway must be paved or covered with a cohesive hard surface that is capable of being swept. The definition of cohesive hard surface includes a dust suppressant. If an operator chooses to apply a dust suppressant as a cohesive hard surface, would the operator still be expected to sweep? Obviously not, but does this nuance need clarification?

Response #36:

In Rule 316, Section 307.6(c)-Fugitive Dust Control Measures-Trackout-Exemptions For Wheel Washers, options to surface the road from the rumble grate to the roadway do not include covering with a cohesive hard surface that is capable of being swept. The only options included in Rule 316, Section 307.6(c) are pavement and a gravel pad depending on the exemption. Covering with a cohesive hard surface is only an option for interior plant roads on the plant-side of the rumble grate.

Comment #37:

In Rule 316, Section 307.6(d)-Fugitive Dust Control Measures-Trackout-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), the Arizona Rock Products Association (ARPA) is concerned about 25 feet for cumulative trackout. While ARPA understands this requirement comes from South Coast Rule 403, ARPA would like to know where this arbitrary number came from and would like to see the required technical and economic analysis conducted specifically for Rule 316.

ARPA is not aware of any data that supports this position and the citations in the Notice Of Proposed Rulemaking do not provide any clarification on this issue. ARPA feels its members are being set-up to fail. ARPA requests Maricopa County to recognize that shadow tracking or film on the roads should not be confused with excessive silt loading caused by spillage or the accumulation of mud on tires. ARPA should not be penalized for aesthetics.

Response #37:

Rule 316 is tied-to a measurable basis for determining severity and used the distance trackout extends as that measure. Past State Implementation Plans (SIPs) indicate that 35%-40% of PM_{10} comes from re-entrained road dust. A recent trackout study conducted by the Arizona Department Of Environmental Quality (ADEQ) in September 2003 again found the heaviest silt loading values for roadways occurred in industrial areas. As a result,

the work practice options for industry are being restricted to provide additional assurance that sources are operating in continuous compliance with the standards in Rule 316.

The South Coast Air Quality Management District Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005 was identified as a rule that included control measures that are best available control measures (BACM)-most stringent control measures (MSM). Rule 1157 sets the cumulative length of trackout, carryout, spillage, or erosion that would require clean-up at 25 feet (25 feet is a single lane of traffic). To ensure that Arizona's measures meet the required BACM-MSM level of stringency, Rule 316 is being revised to prohibit trackout from extending a cumulative distance of 25 linear feet or more from all facility exits onto paved areas accessible to the public.

Comment #38:

Maricopa Count has not provided technical or economic support for the requirement in Rule 316, Section 307.6(e)-Fugitive Dust Control Measures-Trackout-Cleaning Paved Internal Roads (The owner and/or operator of a facility shall clean all paved internal roads 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. (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 (date of adoption of this rule), shall purchase street sweepers that meet the criteria of PM_{10} efficient South Coast Air Quality Management Rule 1186-certified sweepers. (4) The owner and/or operator of a new facility shall use South Coast Air Quality Management Rule 1186-certified sweepers to sweep paved internal roads).

Arizona Rock Products Association (ARPA) would like Maricopa County to take into consideration ARPA's concerns regarding sweeper availability, efficiency, safety, and frequency challenges – not to mention the onerous economic ramifications. While ARPA recognizes the importance of reasonable response time for sweeping, there are numerous variables that could influence ARPA's ability to do so.

ARPA does not want to see a company receive a Notice Of Violation (NOV), when all reasonable actions have been taken to address a problem. Enforcement of silt loading on paved internal roads and areas accessible to the public should be based on the severity of the problem and the frequency by which a road is swept. South Coast's

Air Quality District's Final Staff Report does not recognize the frequency of existing sweeping, nor does it evaluate control efficiency as a function of frequency.

ARPA would also like to include flushing paved surfaces with water as an option, instead of sweeping internal haul roads. Flushing paved surfaces with water provides adequate control equivalency and, at the very least, would allow ARPA members/the rock products industry to remain in compliance, in the event a sweeper is not available. In the West Coast Environmental (WCE) Emissions Inventory Analysis, it states that "…many facilities use water on paved areas to wash away fines. The South Coast Air Quality Management District asserts that this method will result in only 60% control and that sweeping results in 75% control. There is no cost effectiveness evaluation showing that 15% more control is cost effective".

ARPA also questions the availability of South Coast Rule 1186-Certified Sweepers. As currently written, if such certified sweepers are not available, then a new operation would be unable to operate. The Notice Of Proposed Rulemaking fails to identify current suppliers of certified sweepers or costs associated with the equipment. Accordingly, the Notice Of Proposed Rulemaking fails to provide the required technical or economic showing required for this condition.

Response #38:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to add, in the final/adopted version of Rule 316, a provision that street sweeping at the end of each production work shift (an 8-hour operating period based on the 24-hour operating schedule) only has to be done when there is evidence of bulk material extending a cumulative distance of 12 linear feet or more on any paved internal road. The requirements to clean paved internal roads are described in Rule 316, Section 307.6(e) and are summarized in the table at the end of this response – Response #38.

Since the nature of the business of nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations is to move rocks, gravel, and dirt, then nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations must rely on a substantial piece of equipment to clean up spills/deposits of such materials on a paved surface. Currently in Maricopa County, paved internal roads at a nonmetallic mineral processing plant, asphaltic concrete plant, and concrete plant and/or bagging operation can be cleaned by broom machines. Broom machines are efficient for removing heavy gravel, heavy dirt, and heavy mud from paved surfaces, but such machines do not meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers.

On average, nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations hire companies to clean paved internal roads with broom machines 2-3 times per week at a basic retail rate of $85 per hour (with a minimum of 2-hours of service). If needed, such facilities could hire companies to clean paved internal roads once per day at a commercial contract rate of $100 per sweep. If a

facility needs to clean paved internal roads due to a spill or due to sudden excessive trackout, hired companies usually can respond to such “emergency” requests within 2-hours at a basic retail rate of $85 per hour.

With the revisions to Rule 316, Rule 316 will require that if an existing/already operating facility purchases a street sweeper, then such street sweeper must meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers. Likewise, if a new facility begins operating, then such facility must use (whether hired or purchased) a street sweeper that meets the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers. In order for a street sweeper to meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers, such street sweeper must have a pick-up efficiency greater than or equal to 80% and have a normalized mass of entrained PM_{10} of less than or equal to 200 mg/m.

Typically, street sweepers that meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers sell for $80,000-$120,000 new and $30,000 used. When purchasing a street sweeper, a facility must not only consider the cost of the street sweeper, but a facility must also consider how water will be provided for the street sweeper (e.g., having a meter for water available at the facility and/or acquiring water permits from a municipality), because street sweepers must be replenished with water about four times per day. Also, a facility must consider the disposal costs of the debris that the street sweeper collects, because debris collected by street sweepers is usually disposed-of at waste facilities for a disposal fee.

Makers of street sweepers that meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers include Elgin, Johnston, Schwarze, Sweeprite, Tennant, Tymco, and VAC/ALL. The entire product line of Tymco regenerative air sweeper models meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers, have “assisted” heads, and do not sweep debris into a hopper, as do broom machines. As a general practice, when purchasing new street sweepers, street sweeping companies in Maricopa County purchase street sweepers that meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers.

According to the South Coast Air Quality Management District final staff report and final socioeconomic report for proposed Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations dated December 2004, water applied on paved roads is not as effective as sweeping (i.e., 60% vs. 75%). With sweeping, dirt is picked-up by either mechanical or vacuum sweepers, while water only temporarily suppresses dirt.

Conversely, according to Teichert Materials, when a vehicle exits the site when the vehicle tires are wet, the water that the vehicle and its tires track onto a public road contains very fine sediments. When the water that has been tracked onto a public road evaporates, the surface of the public road is left coated with the very fine sediments. Although having very fine sediments on a public road is considered trackout, the amount or degree of trackout could appear/be skewed. Because very fine sediments scatter light easily, the fugitive dust emissions created from traffic traveling over such very fine sediments is sometimes disproportionate to the actual amount of sediment tracked out onto the public road, especially in the light of sunrise and sunset.

If a facility is ALREADY EXISTING / OPERATING at the time Rule 316 is adopted				If a facility is NEWLY EXISTING / OPERATING at the time Rule 316 is adopted		
Amount of facility traffic	**Timing of street sweeping required**	**Types of street sweepers required**		**Amount of facility traffic**	**Timing of street sweeping required**	**Types of street sweepers required**
With a minimum of 60 trucks exiting a facility per day	Sweep paved internal roads with a street sweeper by the end of an 8-hour operating period based on the 24-hour operating schedule (definition of production work shift), if there is evidence of bulk material extending a cumulative distance of 12 linear feet or more on any paved internal road.	Not required to purchase new street sweepers; Okay to use street sweepers that are already being used by the facility	If purchasing street sweepers, street sweepers must meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers	With a minimum of 60 trucks exiting a facility per day	Sweep paved internal roads with a street sweeper by the end of an 8-hour operating period based on the 24-hour operating schedule (definition of production work shift), if there is evidence of bulk material extending a cumulative distance of 12 linear feet or more on any paved internal road.	Street sweepers must meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers
With less than 60 trucks exiting a facility per day	Sweep paved internal roads with a street sweeper by the end of every other working period that may include one or more work shift but not later than 8 pm (definition of end of work day)	Not required to purchase new street sweepers; Okay to use street sweepers that are already being used by the facility	If purchasing street sweepers, street sweepers must meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers	With less than 60 trucks exiting a facility per day	Sweep paved internal roads with a street sweeper by the end of every other working period that may include one or more work shift but not later than 8 pm (definition of end of work day)	Street sweepers must meet the criteria of PM_{10} efficient South Coast Rule 1186-Certified Sweepers

Comment #39:

Spillage occurs at several points around a given plant site and it is not considered a significant source, as implied by the requirement in Rule 316, Section 307.8-Fugitive Dust Control Measures-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; 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 c. Maintain in a stabilized condition all other piles of spillage with dust suppressants until removal).

The Arizona Rock Products Association (ARPA) feels it is unreasonable to require small dirt piles, which are on dirt to begin with, to be treated with dust suppressants, cleaned up, or stabilized, unless there is an emission problem that needs to be addressed. Accordingly, Rule 316, Section 307.8(c) does not appear to be specific to paved surfaces and should be qualified or removed.

Response #39:

As written in Rule 316, Section 307.8 and as spillage is defined in Rule 316, Section 352, the fugitive dust control measures required for spillage (i.e., 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) are specific to paved surfaces and are required only when the spillage can generate or cause fugitive dust emissions.

Comment #40:

Regarding the requirement in Rule 316, Section 308-Fugitive Dust Control Technician (The owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more per hour of material shall have in place a Fugitive Dust Control Technician or his designee…) and the requirement in Rule 316, Section 401.4-Compliance Schedule-Fugitive Dust Control Technician (The newly amended provisions of this rule shall become effective upon adoption of this rule and the following schedule applies… When complying with Section 308 of this rule, a Fugitive Dust Control Technician shall be in place by October 31, 2005 or six months after rule adoption, whichever comes first), the Arizona Rock Products Association (ARPA) would like to see the certification take place for the technician no sooner than three years and would like to couple the training with a smoke school.

Because there is no training currently available, ARPA is concerned that the provision is not technically feasible. Reasonable training opportunities are not available in time for the Fugitive Dust Control Technician to be in compliance by October 31, 2005. Rule 316, Section 401.4 should be revised as follows: "A Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after the Maricopa County Fugitive Dust Control Class has first been initiated, whichever occurs later".

Response #40:

As written in the draft Notice Of Final Rulemaking for Rule 316, Maricopa County is proposing to change, in the final/adopted version of Rule 316, the compliance schedule in Section 401-Administrative Requirements to reflect the new tentative adoption date of Rule 316 – June 8, 2005. With this revision, if a dust control plan is required to be revised, then a revised dust control plan must be submitted to the Control Officer by September 30, 2005 or three months after rule adoption, whichever comes first and a Fugitive Dust Control Technician shall be in place by December 31, 2005 or six months after rule adoption, whichever comes first.

Comment #41:

Regarding Rule 316, Section 101-Purpose draft August 25, 2004 and draft October 28, 2004, rock is a general term that includes minerals. Some minerals may not be the ones defined in Rule 316.

The way Section 101 is worded is unnecessary. Section 101 basically says: "Purpose: To limit…nonmetallic mineral…or any mineral…" Remove rock product processing plant, since it expands on the first type of plant to areas not included in Rule 316 and and/or put nonmetallic ahead of the word rock.

Particulate matter pollution is a combination of particulates generated by the source plant and fugitive dust. The PM_{10} problem that caused the Phoenix area to be out-of compliance was not due exclusively to fugitive dust. Opacity is not the only measure of particulate pollution. The out-of compliance situation was not due to opacity exceedances; it was related health standards set-up by the Environmental Protection Agency (EPA). The

out-of compliance measurements were made by particle monitors. This document doesn't talk about these pollution control methods - only opacity. There should be continuous (accurate) PM_{10} monitors in neighborhoods to protect the people from such excess pollution.

This document has generalized headings and terms but seems to have a limited scope (fugitive dust). The individual air quality permits have requirements for how many tons of particulate emission is allowed. That isn't mentioned either.

Response #41:

Since rock product processing plants are included in the definition of nonmetallic mineral processing plants, the definition of rock product processing plants is not necessary and has been deleted from Rule 316. Also, rock product processing plant is included in Rule 316, Section 101-Purpose, because it is not always clear that a rock product processing plant is also a nonmetallic mineral processing plant and therefore would be subject to Rule 316. By stating specifically that the purpose of Rule 316 applies to a rock product processing plant, it should be clear that a rock product processing plant is subject to Rule 316.

Comment #42:

Regarding Rule 316, Section 102-Applicability draft August 25, 2004 and draft October 28, 2004, rock is a general term that includes minerals. Put nonmetallic ahead of the word rock. It is more like an advertisement for rock products.

Response #42:

Rock product processing plant is included in the Section 101-Purpose, because it is not always clear that a rock product processing plant is also a nonmetallic mineral processing plant and therefore would be subject to Rule 316. By saying specifically that the purpose of Rule 316 applies to a rock product processing plant, it should be clear that a rock product processing plant is subject to Rule 316.

Comment #43:

A number of plants listed in the definition of new facility are left-out of the definition of affected operation. They produce PM also. They are not all involved in excavating. To say excavating is involved in every operation is not true.

Response #43:

By definition, nonmetallic mineral processing includes mining, excavating, separating, combining, crushing, or grinding any nonmetallic mineral. In order to make the definition of new facility and the definition of affected operation correspond with the definition of nonmetallic mineral processing, Maricopa County will change the definition of new facility to read: "A facility subject to this rule that has not been operated prior to xxxx xx, 2005 (30 days after the Maricopa County Board Of Supervisors approves/adopts Rule 316)" and will change the definition of affected operation to read: "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".

Comment #44:

Aggregate truck should be defined as trucks with covered tops.

Response #44:

As written in Rule 316, the definition of aggregate truck matches the definition of aggregate truck in the South Coast Air Quality Management District's Rule 1157-PM_{10} Emission Reductions From Aggregate And Related Operations adopted January 7, 2005.

One of the requirements in Rule 316, Section 307.5-Fugitive Dust Control Measures-Off-Site Traffic is that haul trucks be covered when hauling and/or transporting bulk material off-site.

Comment #45:

If 40 CFR 60.000 requires best available control measures (BACM) and most stringent measures (MSM), these requirements should be called-out in the definition of approved emission control system as required; not whatever the Control Officer decides is good engineering practice. Up-to now, besides baghouses, the only equipment used has been hoses with water in them, which these plants forget to turn-on half of the time.

Response #45:

Historically, Rule 316 has contained only emission limitations and not fugitive dust control measures specific to nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. Sources subject to Rule 316 have been required to implement and/or comply with fugitive dust control measures described in Rule 310 (Fugitive Dust).

The revisions to Rule 316 to be adopted June 8, 2005 incorporate best available control measures (BACM) and most stringent measures (MSM) that are included in the revised PM_{10} State Implementation Plan (SIP) - the Final Revised PM_{10} State Implementation Plan For The Salt River Area dated August 2004. In order to reduce emissions from nonmetallic mineral processing plants, asphaltic concrete plants, concrete plants and/or bagging operations, and/or rock product plants, the revisions to Rule 316 include process controls (i.e., enclosures, watering systems, operational overflow warning systems/devices, and fabric filter baghouses), process emission limitations (i.e., stack emissions limitations), fugitive dust emission limitations (i.e., 20% opacity limit, 0% opacity limit at the property line, silt loading limit, silt content limit, and stabilization standards), and fugitive dust control measures (i.e, during a wind event, for open storage piles and material handling, haul/access roads, on-site traffic, off-site traffic, trackout, spillage, and night-time operations).

The revisions to Rule 316 include adding Section 306-Fugitive Dust Emission Limitations. Section 306 includes fugitive dust emission limitations for the following: (1) 20% Opacity Limitation, (2) Visible Emission

Limitation Beyond Property Line, (3) Wind Event, (4) Silt Loading And Silt Content Standards For Unpaved Internal Roads And Unpaved Parking And Staging Areas, and (5) Stabilization Standards.

The revisions to Rule 316 also include adding Section 307-Fugitive Dust Control Measures. Section 307 includes fugitive dust control measures for the following: (1) Open Storage Piles And Material Handling, (2) Surface Stabilization Where Support Equipment And Vehicles Operate, (3) Haul/Access Roads, (4) On-Site Traffic, (5) Off-Site Traffic, (6) Trackout, (7) Pad Construction For Processing Equipment, (8) Spillage, and (9) Night-Time Operations.

An approved emission control system is a system for reducing particulate emissions. Such systems include, but are not limited to, stacks, fabric filter baghouses, and fugitive dust control measures (e.g., applying water or dust suppressants to unpaved haul roads). Rule 316 requires the owner and/or operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and/or bagging operation, and/or rock product plant to submit to the Control Officer for approval an operation and maintenance plan for stacks and fabric filter baghouses that are used in order to comply with Rule 316. An operation and maintenance plan must be submitted and approved for each emission control system and for each emission control system monitoring device.

Also, the owner and/or operator of a facility/plant must comply with all of the identified actions and schedules provided in an operation and maintenance plan.

Also, Rule 316 requires the owner and operator of a nonmetallic mineral processing plant, asphaltic concrete plant, concrete plant and/or bagging operation, and/or rock product plant to submit to the Control Officer for approval a Dust Control Plan for fugitive dust control measures that are used in order to comply with Rule 316.

Comment #46:

Remove guard rails from the definition of berms and guard rails, if you are not going to define them. Also, a guard rail is not a mound or pile of material. The Army Corps Of Engineers does not want berms in a riverbed.

Response #46:

The definition of berms and guard rails in Rule 316 matches the definition of berms and guard rails in 30 Code Of Federal Regulations (CFR) Part 56, Section 56.9000 and Section 56.9300 and is not intended to contradict the objectives of the Army Corps Of Engineers. The term berms and guard rails is used in Rule 316, Section 307.1 to clarify that berms and guard rails are not considered open storage piles and are not required to comply with the fugitive dust control measures for open storage piles. However, berms and guard rails, if and when installed, must be stabilized so that such berms and guard rails do not cause or allow to be discharged into the ambient air fugitive dust emissions exceeding 20% opacity.

Comment #47:

Regarding the definition of fugitive dust emission, fugitive dust can happen on a conveyor and not be caused by humans directly. Any dust that blows from one place to another is fugitive dust.

Response #47:

As defined in Rule 316, fugitive dust emissions are particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities.

Particulate matter is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Particles can be suspended in the air for long periods of time. Some particles are large or dark enough to be seen as soot or smoke. Other particles are so small that individually they can only be detected with an electron microscope. Some particles are directly emitted into the air. They come from a variety of sources such as cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads, stone crushing, and burning of wood. Other particles may be formed in the air from the chemical change of gases (e.g., from fuel combustion in motor vehicles, at power plants, and in other industrial processes). Such particles are formed indirectly when gases from burning fuels react with sunlight and water vapor.

The purpose of Rule 316 is to limit the emission of particulate matter into the ambient air from any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Rule 316 sets limits on the amount (i.e., percent) of particulate matter emissions emitted from stacks, transfer points on a conveying system, crushers, silos, and truck dumping directly into any screening operation, feed hopper, or crusher.

Comment #48:

Vermiculite is included in the definition of nonmetallic mineral. Vermiculite does not occur in Arizona.

Response #48:

The standards in Rule 316 are consistent with the Standards Of Performance For Nonmetallic Mineral Processing Plants (40 Code Of Federal Regulations (CFR) Part 60 Subpart OOO). The Standards Of Performance For Nonmetallic Mineral Processing Plants defines nonmetallic mineral. Such definition includes vermiculite. Consequently, the definition of nonmetallic mineral in Rule 316 matches the definition of nonmetallic mineral in the Standards Of Performance For Nonmetallic Mineral Processing Plants and therefore includes vermiculite.

According to the Bureaus Of Mines, Mineral Yearbook, Metals And Minerals (except fuels), 1954, Volume I (1958), vermiculite occurred/occurs naturally in Maricopa County, Arizona in the Aguila Area-Vulture Mountains, at the Bar FX Ranch (southwest of Wickenburg) and in the Inter-Range Area (between Wickenburg and the Vulture Mountains).

Comment #49:

Steel mills are included in the definition of nonmetallic mineral processing plant, but steel mills are not nonmetallic plants. Another advertisement for rock products.

Response #49:

The standards in Rule 316 are consistent with the Standards Of Performance For Nonmetallic Mineral Processing Plants (40 Code Of Federal Regulations (CFR) Part 60 Subpart OOO). The Standards Of Performance For Nonmetallic Mineral Processing Plants defines nonmetallic mineral processing plant. Such definition includes steel mills. Consequently, since the definition of nonmetallic mineral processing plant in Rule 316 matches the definition of nonmetallic mineral processing plant in the Standards Of Performance For Nonmetallic Mineral Processing Plants, then the definition of nonmetallic mineral processing plant includes steel mills.

Comment #50:

Why are open areas and vacant lots defined in Rule 316? Why are open areas and vacant lots so important, especially if the lot belongs to someone else?

Response #50:

Historically, Rule 316 has contained only emission limitations and not fugitive dust control measures specific to nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. Sources subject to Rule 316 have been required to implement and/or comply with fugitive dust control measures described in Rule 310 (Fugitive Dust).

The revisions to Rule 316 include fugitive dust control measures specific to nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. With the revisions to Rule 316, a source subject to Rule 316 would be subject to the fugitive dust control measures in Rule 316 and not in Rule 310. In addition, with the revisions to Rule 316, if a source is subject to Rule 316 but not to the specific fugitive dust control measures in Rule 316, such source would be subject to the fugitive dust control measures in Rule 310.

Consequently, Section 237-Definition Of Open Areas And Vacant Lots and Section 263-Definition Of Urban Or Suburban Area were proposed to be added to Rule 316, in order to match Rule 310 (Fugitive Dust). However, since neither term is used and/or referred to in Rule 316, Maricopa County will delete both terms from Rule 316.

Also, since Rule 316, Section 255-Definition Of Storage Bin is not used in Rule 316 but the term silo is used in Rule 316, Maricopa County will delete the definition of storage bin from Rule 316 and will add the definition of silo to Rule 316.

Comment #51:

The definitions used by the Environmental Protection Agency (EPA), including particle size range, should be included in the definition of particulate matter emissions to be consistent with air quality permit requirements.

Response #51:

Particulate matter emissions are defined in Rule 316 as 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. Although a particle size range is not included in the definition of particulate matter emissions, as written in Rule 316, Rule 316, Section 300-Standards sets limits on the amount (i.e., percent and grains/dry standard cubic foot) of particulate matter emissions emitted from stacks, transfer points on a conveying system, crushers, silos, and truck dumping directly into any screening operation, feed hopper, or crusher.

Comment #52:

Is pollution source included in the definition of process source? Pollution can occur during almost any step in a process; pollution is not limited to the last operation.

Response #52:

As written in Rule 316, process source is defined as the last operation of a process or a distinctly separate process, which produces an air contaminant and which is not a pollution abatement operation. This definition is not intended to imply that pollution is limited to the last operation. The term process source is used in Rule 316 in conjunction with the term affected operation, which is defined in Rule 316 as 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.

The purpose of Rule 316 is to limit the emission of particulate matter into the ambient air from any commercial and/or industrial nonmetallic mineral processing plant and/or rock product processing plant. Rule 316 sets limits on the amount (i.e., percent and grains/dry standard cubic foot) of particulate matter emissions emitted from stacks, transfer points on a conveying system, crushers, silos, and truck dumping directly into any screening operation, feed hopper, or crusher.

Comment #53:

What is meant by open area in the definition of urban or suburban area?

Response #53:

Historically, Rule 316 has contained only emission limitations and not fugitive dust control measures specific to nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. Sources subject to Rule 316 have been required to implement and/or comply with fugitive dust control measures described in Rule 310 (Fugitive Dust).

The revisions to Rule 316 include fugitive dust control measures specific to nonmetallic mineral processing plants, asphaltic concrete plants, and concrete plants and/or bagging operations. With the revisions to Rule 316, a source subject to Rule 316 would be subject to the fugitive dust control measures in Rule 316 and not in Rule 310. In addition, with the revisions to Rule 316, if a source is subject to Rule 316 but not to the specific fugitive

dust control measures in Rule 316, such source would be subject to the fugitive dust control measures in Rule 310.

Consequently, Section 237-Definition Of Open Areas And Vacant Lots and Section 263-Definition Of Urban Or Suburban Area were proposed to be added to Rule 316, in order to match Rule 310 (Fugitive Dust). However, since neither term is used and/or referred to in Rule 316, Maricopa County will delete both terms from Rule 316.

Also, since Rule 316, Section 255-Definition Of Storage Bin is not used in Rule 316 but the term "silo" is used in Rule 316, Maricopa County will delete the definition of storage bin from Rule 316 and will add the definition of silo to Rule 316.

Comment #54:

In Section 301.1-Nonmetallic Mineral Processing Plants-Process Emission Limitations draft August 25, 2004 and draft October 28, 2004, Maricopa County is requiring that stack emissions from nonmetallic mineral processing plants be vented to a properly sized fabric filter baghouse. Are all baghouses fabric? What does the Environmental Protection Agency (EPA) say about this?

Response #54:

Rule 316 requires that particulate matter emissions be controlled by and collected in fabric filter baghouses at stacks for nonmetallic mineral processing plants and at silos and drum dryers for asphaltic concrete plants. As written in Rule 316, a fabric filter baghouse is a tube-shaped filter bag/long small-diameter fabric tube referred to as a "bag" arranged in parallel flow paths designed to separate particles and flue gases.

According to the Air Pollution Control Technology Verification Center (APCTVC) – part of the EPA's Environmental Technology Verification Program - fabric filters may be in the form of sheets, cartridges, or bags, with a number of the individual fabric filter units housed together in a group. Groups of bags are placed in isolable compartments to allow cleaning of the bags or replacement of some of the bags without shutting-down the entire fabric filter. Because the fabric is usually configured in cylindrical bags, fabric filters are frequently referred to as baghouses, which are the most common type of fabric filter.

In fabric filters (i.e. fabric filter baghouses), flue gas is passed through a tightly woven or coarsely woven fabric (scrim), synthetic, or glass-fiber material configured in either a tube or an envelope shape. Particulate matter in the flue gas is collected on the fabric by sieving and/or shaking. However, it is not the cloth/fabric that does the filtering, but rather the cake on the filter that stops particulate matter from flowing through the baghouse and ultimately into the ambient air.

Shaker and reverse-air baghouses normally use woven fabric bags, run at relatively low face velocities, and have cake filtration as the major particle removal mechanism. That is, the fabric merely serves as a substrate for the formation of a cake that is the actual filtration medium. Pulse-jet baghouses generally use felt fabric and run

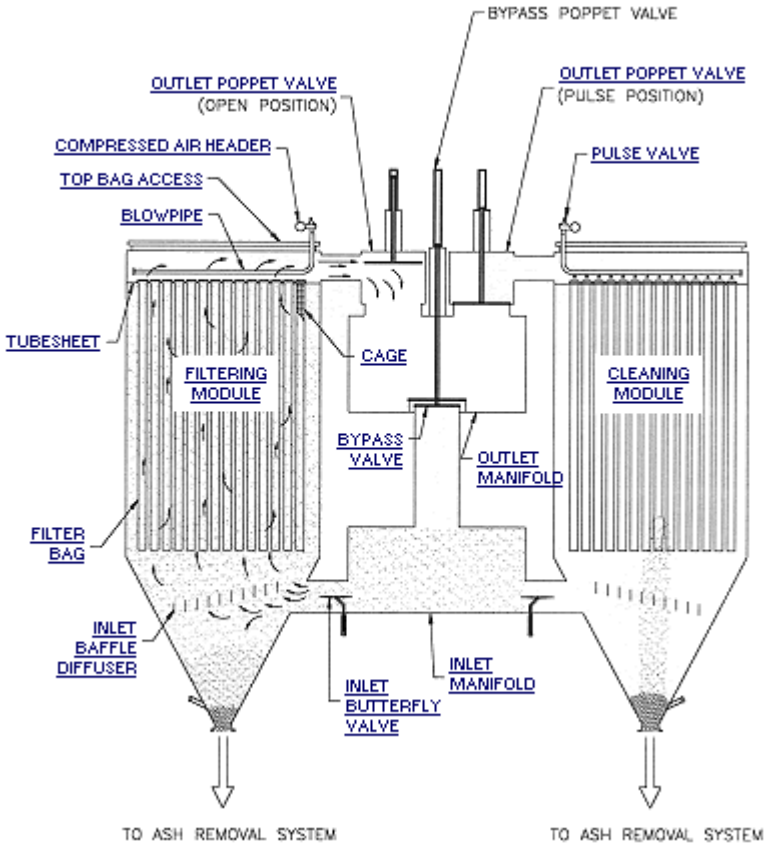
with a high gas-to-cloth ratio (about double that of shaker or reverse-air baghouses). The felt fabric may play a much more active role in the filtration process. This distinction between cake filtration and fabric filtration has important implications for the rate of pressure loss across the filter bags. The theoretical description and design process for cake filtration is quite different from that for fabric filtration. Fabric selection is aided by bench-scale filtration tests to investigate fabric effects on pressure drop, cake release during cleaning, and collection efficiency.

Practical application of fabric filters requires the use of a large fabric area in order to avoid an unacceptable pressure drop across the fabric. Baghouse size for a particular unit is determined by the choice of air-to-cloth ratio or the ratio of volumetric air flow to cloth area. The selection of air-to-cloth ratio depends on the particulate loading, particulate characteristics, and the cleaning method used. A high particulate loading will require the use of a larger baghouse, in order to avoid forming too heavy a cake, which would result in an excessive pressure drop.

Determinants of baghouse performance include the fabric chosen, the cleaning frequency and methods, and the particulate characteristics. Some fabrics intercept a greater fraction of particulate and some fabrics are coated with a membrane with very fine openings for enhanced removal of submicron particulate. Because the cake can provide a significant fraction of the fine particulate removal capability of a fabric, cleaning too intensely or too frequently will lower the removal efficiency. On the other hand, if cleaning is done too infrequently or too ineffectively, then the baghouse pressure drop becomes too high and will lower the removal efficiency.

Fabric filters in general provide high collection efficiencies on both coarse and fine (submicron) particulates and are relatively insensitive to fluctuations in gas stream conditions. Efficiency and pressure drop are relatively unaffected by large changes in inlet dust loadings for continuously cleaned filters. Filter outlet air is very clean and may be re-circulated within the plant in many cases (for energy conservation). Collected material is collected dry for subsequent processing or disposal. Corrosion and rusting components are usually not problems.

A typical fabric filter baghouse system is shown on the following page.



Comment #55:

In Section 306.1(a)-Fugitive Dust Emission Limitations And Fugitive Dust Control Measures-Wind Event draft August 25, 2004 and in Section 306.3-Fugitive Dust Emission Limitations-Wind Event draft October 28, 2004, Maricopa County should require that operations should also cease, if there is a health warning to the community about particulate or ozone levels for that day, as when people are asked to limit their driving on such days.

Response #55:

Maricopa County has not included in Rule 316 a requirement that operations cease, when there is a health warning to the community about particulate or ozone levels. Instead, Arizona Revised Statutes (ARS) §49-465-Air Pollution Emergency takes precedence regarding establishing requirements and procedures for declaring a health warning to the community. According to ARS §49-465, if the director of the Arizona Department Of Environmental Quality (ADEQ) determines that air pollution in any area constitutes or may constitute an emergency risk to the health of those in the area or that national ambient air quality standards are likely to be exceeded, such determination must be communicated to the governor. The governor may, by proclamation, declare that an emergency exists and may prohibit, restrict, or condition the following: (1) motor vehicle traffic, (2) the operation of retail, commercial, manufacturing, governmental, industrial, or similar activity, (3)

operation of incinerators, (4) the burning or other consumption of fuels, (5) the burning of any materials whatsoever, and (6) any and all other activity which contributes or may contribute to the emergency.

Comment #56:

In Section 306.2-Fugitive Dust Emission Limitations And Fugitive Dust Control Measures-Certified Method 9 Observer draft August 25, 2004 and in Section 307.11-Fugitive Dust Control Measures-Fugitive Dust Control Measures At Night draft October 28, 2004, Maricopa County should require that opacity be measured at night as well as during the day.

Response #56:

Rule 316 requires an owner and/or operator of a facility to implement fugitive dust control measures and to have such measures approved in a Dust Control Plan. Also, Rule 316 requires an owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour to have in place a Fugitive Dust Control Technician, who must be authorized to conduct routine inspections, recordkeeping, and reporting – whether day or night - to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with Rule 316 and who must be certified to determine opacity as visible emissions in accordance with the provisions of the Environmental Protection Agency (EPA) Method 9.

Comment #57:

Maricopa County should change Section 307-Dust Control Plan draft August 25, 2004, so that Section 307 does not change requirements specified in earlier sections. Not all fugitive dust emissions are 20% opacity.

Response #57:

In Rule 316, Maricopa County has deleted from the Dust Control Plan requirement the text “in order to prevent fugitive dust emissions from exceeding 20%”. The Dust Control Plan requirement now reads: 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.

Comment #58:

In Section 308-Fugitive Dust Control Technician draft October 28, 2004, Maricopa County should add a requirement for the use of and training for the use of methods of determining opacity at night. The requirement for opacity doesn’t say that it’s a daylight requirement. There are plenty of witnesses who have seen lights obscured at night because of dust.

Response #58:

Rule 316 requires an owner and/or operator of a facility to implement fugitive dust control measures and to have such measures approved in a Dust Control Plan. Also, Rule 316 requires an owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour to have in place a Fugitive Dust Control Technician, who must be authorized to conduct routine inspections, recordkeeping, and reporting – whether day or night - to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with Rule 316 and who must be certified to determine opacity as visible emissions in accordance with the provisions of the Environmental Protection Agency (EPA) Method 9.

Comment #59:

In Section 502.2-Compliance Determination-40 Part 60, Appendix A Test Methods Adopted By Reference-Opacity Determination draft October 28, 2004, Maricopa County should require that opacity be measured at night as well as during the day.

Response #59:

Rule 316 requires an owner and/or operator of a facility to implement fugitive dust control measures and to have such measures approved in a Dust Control Plan. Also, Rule 316 requires an owner and/or operator of a facility with a rated or permitted capacity of 25 tons or more of material per hour to have in place a Fugitive Dust Control Technician, who must be authorized to conduct routine inspections, recordkeeping, and reporting – whether day or night - to ensure that all fugitive dust control measures are installed, maintained, and used in compliance with Rule 316 and who must be certified to determine opacity as visible emissions in accordance with the provisions of the Environmental Protection Agency (EPA) Method 9.