

August 18, 2016

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Tim Conner, Scottsdale, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Thursday, August 25, 2016 - 1:30 p.m.  
MAG Office, Suite 200 - Saguaro Room  
302 North 1<sup>st</sup> Avenue, Phoenix

A meeting of the MAG Air Quality Technical Advisory Committee has been scheduled for the time and place noted above. Members of the Air Quality Technical Advisory Committee may attend the meeting either in person, by videoconference or by telephone conference call. Those attending by videoconference must notify the MAG site three business days prior to the meeting. If you have any questions regarding the meeting, please contact Chair Conner or Lindy Bauer at 602-254-6300.

Please park in the garage underneath the building, bring your ticket, and parking will be validated. For those using transit, Valley Metro/Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Air Quality Technical Advisory Committee does not meet the quorum requirement, members who arrived at the meeting will be instructed a legal meeting cannot occur and subsequently be dismissed. Your attendance at the meeting is strongly encouraged. If you are unable to attend the meeting, please make arrangements for a proxy from your entity to represent you.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Leila Gamiz at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

TENTATIVE AGENDA

COMMITTEE ACTION REQUESTED

1. Call to Order

2. Call to the Audience

An opportunity will be provided to members of the public to address the Air Quality Technical Advisory Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Air Quality Technical Advisory Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard.

3. Approval of the May 26, 2016 Meeting Minutes

4. Update on Ozone Monitoring Data

An update will be provided on the ozone monitoring data. The Maricopa Eight-Hour Ozone Nonattainment Area is currently a Moderate Area for the 2008 ozone standard of 0.075 parts per million. To date, the ozone concentrations are continuing to decline in the 2016 ozone season.

5. Update on the Moderate Area Ozone Plan

The MAG 2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area is designed to meet the requirements of Section 182(b) of the Clean Air Act. The attainment date for Moderate Areas is July 20, 2018. The plan is due by January 1, 2017. The plan is required to include reasonable further progress; reasonably available control

2. For information.

3. Review and approve the May 26, 2016 meeting minutes.

4. For information and discussion.

5. For information and discussion.

technology; reasonably available control measures; new source review; emissions inventories; modeling attainment demonstration for 2017 (ozone season prior to the attainment date); contingency measures; and motor vehicle emissions budgets for conformity. To date, there are approximately 93 existing control measures in the Maricopa Eight-Hour Ozone Nonattainment Area that have been included in the reasonably available control measure analysis.

At the meeting, an update on the plan will be provided, which will include the reasonably available control measure analysis, modeling attainment demonstration, and reasonable further progress demonstration. Please refer to the enclosed material.

6. Ozone Boundary Designations

On August 9, 2016, the Arizona Department of Environmental Quality (ADEQ) conducted another stakeholder meeting on the ozone boundary designations. At the meeting, ADEQ reported that the Environmental Protection Agency (EPA) did not look favorably upon submitting the current Maricopa ozone boundary as the preferred option. The ADEQ indicated that the primary recommendation will now be the expansion of the current boundary to include the Queen Valley monitor in Pinal County and the Tonto National Monument monitor in Gila County. ADEQ will present three other alternatives to not expand the boundary if the Queen Valley and/or Tonto National Monument monitors meet the standard.

Based upon the 2014-2016 monitor data, both monitors are at 0.071 parts per million, which is slightly over the 0.070 parts per million standard. Until recently, the Tonto monitor was meeting the standard. However, it was discovered that the monitor had shut down on June 22, 2015 in the evening due to a pump failure. Since the monitor had six

6. For information and discussion.

hours of data over the standard before it shut down, it would be counted as an exceedance, causing the monitor to violate the standard. ADEQ has indicated that if the monitor had not shut down and had the usual eight hours of data, the monitor would not have violated the standard due to the declining ozone concentrations in the evening. If the boundary is expanded as in the ADEQ primary recommendation, there will be tighter controls on business and industry in the new area and transportation conformity requirements will apply. These requirements could have a negative impact on economic development in Pinal County.

By September 1, 2016, ADEQ will submit the boundary recommendation to the Governor for consideration. By October 1, 2016, the Governor will submit the boundary recommendation to EPA. By October 1, 2017, EPA will finalize the ozone boundary designations based upon 2014-2016 monitor data and possibly 2017. In addition, the MAG comments submitted to ADEQ for the July 1, 2016 public hearing on the ozone boundary designations are attached. Please refer to the enclosed material.

7. Call for Future Agenda Items

The next meeting of the Committee has been tentatively scheduled for **Thursday, September 22, 2016 at 1:30 p.m.** The Chair will invite the Committee members to suggest future agenda items.

7. For information and discussion.

MINUTES OF THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, May 26, 2016  
MAG Office  
Phoenix, Arizona

MEMBERS ATTENDING

- Tim Conner, Scottsdale, Chairman
- \* Jamie McCullough, El Mirage, Vice Chair
- Drew Bryck, Avondale
- Susan Avans for Robert van den Akker, Buckeye
- Jon Sherrill, Chandler
- \* Hondo Judd, Gilbert
- Megan Sheldon, Glendale
- \* Cato Esquivel, Goodyear
- \* Kazi Haque, Maricopa
- # Greg Edwards, Mesa
- Stuart Kent, Peoria
- Joe Gibbs for Joe Giudice, Phoenix
- # Antonio DeLaCruz, Surprise
- Oddvar Tveit, Tempe
- \* Youngtown
- \* Ramona Simpson, Queen Creek
- \* Walter Bouchard, American Lung Association of Arizona
- Kristin Watt, Salt River Project
- \* Rebecca Hudson-Nunez, Southwest Gas Corporation
- Michael Denby, Arizona Public Service Company
- \* Gina Grey, Western States Petroleum Association
- # Amanda Luecker for Robert Forrest, Valley Metro/RPTA
- \* Dave Berry, Arizona Motor Transport Association
- \* Liz Foster for Jeanette Fish, Maricopa County Farm Bureau
- \* Steve Trussell, Arizona Rock Products Association
- \* Claudia Whitehead, Greater Phoenix Chamber of Commerce
- Amanda McGennis, Associated General Contractors
- \* Spencer Kamps, Homebuilders Association of Central Arizona
- # Mannie Carpenter, Valley Forward
- # Kai Umeda, University of Arizona Cooperative Extension
- Beverly Chenausky, Arizona Department of Transportation
- \* Marina Mejia, Arizona Department of Environmental Quality
- \* Environmental Protection Agency
- Hether Krause, Maricopa County Air Quality Department
- Scott DiBiase, Pinal County
- \* Michelle Wilson, Arizona Department of Weights and Measures
- @ Ed Stillings, Federal Highway Administration
- # Judi Nelson, Arizona State University
- Stan Belone, Salt River Pima-Maricopa Indian Community

\*Members neither present nor represented by proxy.

#Participated via telephone conference call.

+Participated via video conference call.

@ Ex-Officio member, non-voting member.

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments  
Matt Poppen, Maricopa Association of Governments  
Kara Johnson, Maricopa Association of Governments  
Dean Giles, Maricopa Association of Governments  
Taejoo Shin, Maricopa Association of Governments  
Randy Sedlacek, Maricopa Association of Governments  
Teri Kennedy, Maricopa Association of Governments

Philip Loftis, Maricopa Department of Transportation  
Joonwon Joo, Arizona Department of Transportation  
Carly Akine, City of Glendale  
Diane Barker, Citizenry

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on May 26, 2016. Tim Conner, City of Scottsdale, Chair, called the meeting to order at approximately 1:30 p.m. Judi Nelson, Arizona State University; Mannie Carpenter, Valley Forward; Kai Umeda, University of Arizona Cooperative Extension; Greg Edwards, City of Mesa; Amanda Luecker, Valley Metro; and Antonio DeLaCruz, City of Surprise, attended the meeting via telephone conference call.

Chair Conner indicated that copies of the handouts for the meeting are available. He noted for members attending through audio conference, the presentations for the meeting will be posted on the MAG website under Resources for the Committee agenda, whenever possible. If it is not possible to post them before the meeting, they will be posted after the meeting.

2. Call to the Audience

Chair Conner stated that the Call to the Audience provides an opportunity for members of the public to address the Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Comment cards for those wishing to speak are available on the tables adjacent to the doorways inside the meeting room. Members of the public will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard. Chair Conner noted that no public comment cards had been received.

3. Approval of the March 24, 2016 Meeting Minutes

The Committee reviewed the minutes from the March 24, 2016 meeting. Stan Belone, Salt River Pima-Maricopa Indian Community, moved and Hether Krause, Maricopa County Air Quality Department, seconded, and the motion to approve the March 24, 2016 meeting minutes carried unanimously.

4. Draft April 2016 Conformity Analysis for the Draft FY 2017-2021 MAG Transportation Improvement Program and Draft Amendment to the 2035 MAG Regional Transportation Plan

Dean Giles, Maricopa Association of Governments, presented the Draft April 2016 Conformity Analysis for the Draft FY 2017-2021 MAG Transportation Improvement Program (TIP) and Draft Amendment to the 2035 MAG Regional Transportation Plan (RTP). He stated the April 2016 Conformity Analysis and the results for the regional emissions analysis conclude that the draft TIP and RTP meet the requirements for a new finding of conformity. Mr. Giles indicated that the Clean Air Act links transportation and air quality and requires that transportation plans, programs, and projects conform or be consistent with goals in the regional air quality plans. Conformity ensures that transportation activities do not cause violations of the Federal air quality standards. Mr. Giles noted that air quality plans establish motor vehicle emissions budgets that are used for the conformity tests.

Mr. Giles stated that the federal conformity regulations specifies four criteria that are required for a conformity determination. The TIP and RTP must pass the conformity emissions tests using an Environmental Protection Agency (EPA) approved budget or a budget that is found to be adequate for transportation conformity purposes. Mr. Giles noted that an interim emissions test is used in areas without an approved or adequate budget. He indicated that the additional requirements for the conformity analysis include: utilization of the latest planning assumptions and emissions models; the TIP and RTP are required to provide timely implementation of transportation control measures from air quality plans; and consultation. Mr. Giles noted that EPA model MOVES2014a and the latest vehicle registration data from the Arizona Department of Transportation, indicated in Table Four, were used for the conformity analysis. MAG distributed copies of the Draft April 2016 Conformity Analysis for consultation to members of the MAG Management Committee on May 6, 2016. A copy is provided in the Committee materials.

Mr. Giles discussed conformity and the expanded MAG metropolitan planning area (MPA) boundary. He stated that the expanded MAG MPA boundary and the Sun Corridor Metropolitan Planning Organization (MPO) MPA boundary include portions of the Pinal County PM-10 and PM-2.5 nonattainment areas. The MAG and Sun Corridor MPO boundaries completely cover both Pinal County nonattainment areas. Both metropolitan planning organizations are required to demonstrate transportation conformity for both nonattainment areas.

Mr. Giles presented a map that includes: the carbon monoxide maintenance area; the PM-10 nonattainment area; the 8-hour ozone nonattainment area; the PM-2.5 nonattainment area; the Pinal County PM-10 nonattainment area; the MAG MPA; and the Sun Corridor MPA. Mr. Giles noted that portions of both MPOs cover the West Pinal County PM-10 and PM-2.5 nonattainment areas.

Mr. Giles provided the regional emissions analysis results for the Maricopa County nonattainment and maintenance areas. He discussed the carbon monoxide (CO) results for the conformity budget test in the Maricopa County maintenance area. For analysis year 2015, the projected emissions from the implementation of the draft TIP and RTP are less than the budget established in the MAG 2003 Carbon Monoxide Maintenance Plan. For years 2025 and 2035, the projected emissions from the draft TIP and RTP are less than the budget established in the MAG 2013 Carbon Monoxide Maintenance Plan.

Amanda McGennis, Associated General Contractors, asked if the budget was marked as the white bar and the emissions were marked as the blue bar in the table. Mr. Giles responded yes. He stated that the results indicate that the draft TIP and RTP meet the conformity test for CO.

Mr. Giles presented the eight-hour ozone results for the conformity budget test for the Maricopa County nonattainment area. He stated that the conformity test utilized the EPA approved motor vehicle emissions budget for the ozone precursors, volatile organic compounds (VOC) and nitrogen oxides (NOx). The projected VOC emissions from the implementation of the draft TIP and RTP for analysis year 2017 are less than the budget established in the MAG 2007 Eight-Hour Ozone Plan. For years 2025 and 2035, the projected VOC emissions from the draft TIP and Plan are less than the budget established in the MAG 2009 Eight-Hour Redesignation Request and Maintenance Plan.

Mr. Giles provided the eight-hour ozone results for NOx. The projected NOx emissions from the implementation of the draft TIP and RTP for analysis year 2017 are less than the budget established in the MAG 2007 Eight-Hour Ozone Plan. For years 2025 and 2035, the projected NOx emissions from implementation of the draft TIP and Plan are less than the budget established in the MAG 2009 Eight-Hour Redesignation Request and Maintenance Plan. The results indicate that the draft TIP and RTP meet the conformity test for eight-hour ozone.

Michael Denby, Arizona Public Service Company, inquired about the VOC and NOx emissions measurement of metric tons per day in relation to ozone that is measured as parts per million. He asked how the emissions relate to nonattainment of the current ozone standard. Mr. Giles replied that the ozone concentrations are converted to metric tons per day. Lindy Bauer, Maricopa Association of Governments, added that the ozone standard measures the ozone concentration in parts per million. She stated that the ozone emissions are measured in metric tons per day. The Clean Air Act requires that the Regional Transportation Plan and the Transportation Importment Program fit into the motor vehicle emission budget when modeling attainment for an air quality plan.

Mr. Denby asked that parts per million and metric tons per day are two different items. Ms. Bauer responded that the two are different units. She stated that when the standard is met, there are emissions in the air. When modeling attainment, a pie chart displays the emissions breakdown. Ms. Bauer indicated that the motor vehicle emissions budget is one component of the pie chart. The motor vehicle emissions budget is required in the Clean Air Act to ensure that transportation plans, programs, and projects do not contribute to violations of the air quality standards. Under Section 176 of the Clean Air Act, metropolitan planning organizations are not allowed to approve transportation plans, programs, or project unless it is in conformance with the applicable air quality plans.

Mr. Denby inquired if the numbers in metric tons per day are favorable with regard to the 0.070 parts per million ozone standard. Ms. Bauer replied that there is no plan completed for the 2015 ozone standard. The approved EPA motor vehicle emission budgets are from approved plans for other EPA ozone standards.

Mr. Giles provided the PM-10 results for the conformity budget test for the Maricopa County nonattainment area. He stated that the conformity test utilized the EPA approved motor vehicle emissions budget established in the MAG 2012 Five Percent Plan for PM-10. For analysis years 2015, 2025, and 2035, the projected PM-10 emissions from the draft TIP and Plan are less than the 2012 budget. In addition, the chart displays the 2006 budget from the MAG 1999 Serious Area Particulate Plan for PM-10. Mr. Giles noted that the 2006 budget was included due to the pending legal challenge to the EPA approval of the MAG 2012 Five Percent Plan for PM-10. He stated that the results indicate that the draft TIP and RTP meet the conformity test for PM-10 in the Maricopa County nonattainment area.

Mr. Giles presented the results for the Pinal County PM-10 and PM-2.5 nonattainment areas. He discussed the PM-10 results for the conformity interim emission test. For analysis years 2020, 2030, 2035, and 2040, the projected PM-10 action emissions are less than the projected baseline emissions. A PM-10 conformity budget test was also conducted using the submitted budget from the Arizona Department of Environmental Quality 2015 West Pinal Moderate PM-

10 Nonattainment Area State Implementation Plan. Mr. Giles stated that the test was performed using the budget from the Pinal Moderate PM-10 Plan to ensure that any future budget approval or adequacy finding does not interfere with the conformity determination. The emissions for analysis years 2018, 2020, 2030, 2035, and 2040, are less than the projected 2018 budget.

Ed Stillings, Federal Highway Administration, inquired if the Sun Corridor projects were included in the results for the PM-10 conformity interim emission test. Mr. Giles responded yes. He stated that MAG has coordinated with the Sun Corridor MPO to include proposed projects.

Mr. Giles provided the PM-2.5 results for the Pinal County PM-2.5 nonattainment area. He indicated that the conformity interim emission test is required for both PM-2.5 and NOx. For analysis years 2020, 2030, 2035, and 2040, the projected PM-2.5 action emissions are less than the projected baseline emissions.

Mr. Giles presented the NOx results for the Pinal County PM-2.5 nonattainment area. For analysis years 2020, 2030, 2035, and 2040, the projected NOx action emissions are less than the projected baseline emissions. Mr. Giles noted that the results indicate that the draft TIP and RTP meet the conformity test for PM-2.5 in the Pinal County nonattainment area.

Mr. Giles provided the conformity schedule. On May 5, 2016, the Draft Conformity Analysis document was made available for a 30-day public review. Today, the Committee may make a recommendation to approve the Draft April 2016 Conformity Analysis. The public hearing for the Draft April 2016 Conformity Analysis, Draft FY 2017-2021 MAG Transportation Improvement Program, and Draft Amendment to the 2035 MAG Regional Transportation Plan, will be conducted on June 7, 2016. The Draft 2016 MAG Conformity Analysis would then proceed to the MAG Management Committee on June 8, 2016. On June 22, 2016, the MAG Regional Council may take approval action on the finding of conformity. The final determination of conformity is anticipated in July 2016 by the Federal Highway Administration and Federal Transit Administration.

Ms. Bauer noted that to date no comments have been received. She stated that should comments be received on the conformity analysis at the public hearing, the response to comments will be transmitted to the Committee.

Chair Conner requested a motion to recommend approval of the Draft April 2016 Conformity Analysis for the Draft FY 2017-2021 MAG Transportation Improvement Program and Draft Amendment to the 2035 MAG Regional Transportation Plan. Oddvar Tveit, City of Tempe, requested that the Committee be able to review any significant public comments. Joe Gibbs, City of Phoenix, moved, and Stuart Kent, City of Peoria, seconded, and the motion to recommend approval of the Draft April 2016 Conformity Analysis for the Draft FY 2017-2021 MAG Transportation Improvement Program and Draft Amendment to the 2035 MAG Regional Transportation Plan carried unanimously.

##### 5. Update on the Moderate Area Ozone Plan

Ms. Bauer provided an update on the MAG Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area. On May 4, 2016 EPA published the final notice in the Federal Register that determined the Maricopa eight-hour ozone nonattainment area did not attain the

standard and would be reclassified from Marginal to Moderate. Ms. Bauer noted that the Moderate Plan is for the 0.075 ozone ppm standard established by EPA in 2008. She stated that MAG is proceeding with extensive modeling that covers the entire ozone season. Ms. Bauer indicated that it appears no additional measures will be required for the attainment demonstration. The benefits from the existing 93 local, state, and federal ozone control measures already in place in the Maricopa nonattainment area will be utilized for the attainment demonstration.

Ms. Bauer stated that MAG is working with the Maricopa County Air Quality Department on the Reasonably Available Control Measure Analysis. Additionally, the Maricopa County Air Quality Department is working on the Reasonably Available Control Technology which is a separate, independent requirement for Moderate areas.

#### 6. Ozone Boundary Designations

Ms. Bauer presented an update on the ozone boundary designations for the 2015 ozone standard of 0.070 ppm. The Arizona Department of Environmental Quality (ADEQ) has implemented a process to evaluate the ozone nonattainment areas throughout the state. Ms. Bauer displayed a map of the current Maricopa Eight-Hour Ozone Nonattainment Area that encompasses 5,017 square miles. Based on 2013 through 2015 monitoring data, 13 air quality monitors in the current ozone boundary do not meet the 0.070 ppm standard. Ms. Bauer indicated that based on 2016 monitoring data, only seven monitors do not meet the 0.070 ppm standard. However, she stated that the 2016 ozone season is not over.

Ms. Bauer discussed the expansion of the Maricopa eight-hour ozone nonattainment area boundary to include two monitors outside the nonattainment area that slightly exceed the 2015 ozone standard. She stated that the Tonto National Monument monitor, located in the Tonto National Forest in Gila County, has a reading of 0.071 ppm. The Queen Valley monitor is located in Pinal County on the boarder of the Tonto National Forest, also has a reading of 0.071 ppm. She stated that when evaluating the 2016 monitoring data, the Tonto National Monument monitor is currently below the standard. Ms. Bauer noted that the Queen Valley monitor currently has one exceedance at 0.071 ppm, however the other readings meet the 0.070 ppm standard. She stated that the monitor can experience a few exceedances. Ms. Bauer commented that there is hope that the monitors will meet the 0.070 ppm ozone standard in 2016. Ms. Bauer noted the downward trend at both the Tonto National Monument and Queen Valley monitors.

Ms. Bauer indicated that, based upon the downward trend in the monitoring data and that both monitors only slightly exceed the standard, the boundary does not need to be expanded at this time. Ms. Bauer stated that ADEQ is required to submit the designation recommendations for attainment or nonattainment to EPA based upon 2013 to 2015 ozone monitoring data by October 1, 2016. On April 14, 2016, ADEQ conducted a public hearing in which they proposed to expand the Maricopa eight-hour ozone nonattainment area to include the Tonto National Monument monitor and the Pinal County Queen Valley monitor.

Ms. Bauer stated that ADEQ had indicated that they would be willing to consider 2016 monitoring data after making a recommendation to expand the ozone boundary. EPA guidance documents for the ozone designations encourages states to consider 2016 data in making the

recommendations. When making the designations, EPA will be looking at newer data. Ms. Bauer noted that looking at newer data is important when there are downward trends in concentration and emissions data. She stated that MAG recommended that ADEQ look at newer data as well. Ms. Bauer noted that there were concerns about making it through the ADEQ public process in a timely manner while waiting for newer 2016 data.

Ms. Bauer stated that on April 27, 2016 MAG discussed the matter with the MAG Regional Council who took approval action to send a letter to ADEQ requesting that the boundary not be expanded at this time due the downward trend in the monitoring data and that both monitors only slightly exceed the standard. The MAG Regional Council discussed that the 2016 monitoring data should be evaluated to determine if a change to the boundary is necessary or if the monitors may come into compliance. On May 5, 2016, ADEQ responded to the letter by setting up a meeting with Maricopa County Air Quality Department, Pinal County Air Quality Department, and MAG to discuss the data. ADEQ indicated that the preferred option would be the current boundary, however there may be additional options. On May 23, 2016, ADEQ held a stakeholder meeting to discuss four options to be recommended by the State to EPA by October 1, 2016.

Ms. Bauer discussed the four options. The four options allow for consideration of newer, more recent air quality data, which may be cleaner. Ms. Bauer stated that EPA will be evaluating 2014 through 2016 data, possibly 2017 data, in which EPA will be finalizing the boundary designation by October 1, 2017. She indicated that if the downward trend continues and the two monitors meet the standard, the boundary would not need to be expanded. ADEQ indicated that these options provide a streamlined approach rather than revising the recommendation after it is made. All four options can go through the public review process and when provided to EPA, EPA can make a decision by October 1, 2017.

Ms. Bauer presented the ADEQ proposed map of the ozone nonattainment boundary if Queen Valley monitor and the Gila County monitor are both attaining given the 2016 monitoring data. She noted that the map shows the current eight-hour ozone nonattainment area boundary. In this option, the boundary would not be expanded.

Ms. Bauer presented the ADEQ proposed map of the ozone nonattainment boundary if the Gila County monitor is not attaining and the Queen Valley monitor is attaining given the 2016 monitoring data. In this option, the boundary would be expanded to include just the Tonto National Monument monitor in Gila County.

Ms. Bauer presented the ADEQ proposed map of the ozone nonattainment boundary if the Queen Valley monitor is not attaining and the Gila County monitor is attaining given the 2016 monitoring data. In this option, the boundary would be expanded to include just the Queen Valley monitor. Ms. Bauer noted that this proposed boundary is similar to what was proposed before, however there is a property owned by the Salt River Project that has been included in this option. She indicated that MAG discussed the inclusion of the Salt River Project land with Pinal County.

Ms. Bauer presented the ADEQ proposed map of the ozone nonattainment boundary if both the Queen Valley and the Tonto National Monument monitors are not attaining given the 2016

monitoring data. In this option, the boundary would be expanded to include both monitors. Ms. Bauer indicated that all four options would be proposed to EPA.

Ms. Bauer discussed the Arizona Department of Environmental Quality boundary designation schedule. She stated that a stakeholder meeting was conducted on May 23, 2016. ADEQ will now prepare a draft designations document. The document will undergo a public review process in May and June of 2016. Ms. Bauer stated that ADEQ will submit designations to the Governor for consideration in August or September 2016. The Governor would then submit the designations document to EPA by October 1, 2016. Ms. Bauer indicated that MAG had expressed appreciation to ADEQ at the stakeholder meeting for the four options that allow EPA the option of considering newer data and the potential of not expanding the ozone nonattainment area boundary.

Mr. Denby inquired if there are more monitors beyond the boundaries shown in the ADEQ maps that may be of concern in the future. Ms. Bauer responded that there are other monitors in Pinal County, however they are below the standard. She stated that the Tonto National Monument monitor is the only ozone monitor in Gila County. Ms. Bauer asked if Scott DiBiase, Pinal County, would like to add anything. Mr. DiBiase replied that Ms. Bauer covered the Pinal County monitors.

#### 7. CMAQ Annual Report

Mr. Giles provided the Congestion Mitigation and Air Quality Improvement (CMAQ) Annual Report for 2015. The Federal Congestion Mitigation and Air Quality Improvement Program requires that a CMAQ Annual Report be prepared that specifies how CMAQ funds have been spent during the prior fiscal year and the anticipated air quality benefits. The annual report for fiscal year ending September 30, 2015 was submitted to the Federal Highway Administration in April 2016. Mr. Giles noted that the report is in the electronic format produced by the Federal Highway Administration's CMAQ tracking system. He thanked the Arizona Department of Transportation for their assistance and review of the Annual Report.

Mr. Giles reviewed the CMAQ projects included in the report. He stated that the Committee has seen these projects before when they were submitted for possible CMAQ funding and inclusion in the Transportation Improvement Program. He indicated that the information supplied to MAG from the member agencies was reevaluated using the most recent EPA emissions models. Mr. Giles noted that on page two, the report includes the purchase of seventeen street sweepers by MAG member agencies. He added that the City of Phoenix and City of Peoria have paving projects listed on page two of the report. Mr. Giles indicated that there are also paving projects in the Pinal County nonattainment areas that are being implemented by Pinal County and the City of Maricopa.

#### 8. Call for Future Agenda Items

Chair Conner indicated that the next meeting of the Committee has been scheduled for Thursday, June 23, 2016 at 1:30 p.m. He requested suggestions for future agenda items. With no further comments, the meeting was adjourned at approximately 2:10 p.m.

August 18, 2016

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Matthew Poppen, Senior Air Quality Project Manager

SUBJECT: TRANSMITTAL OF THREE DRAFT OZONE CONTROL MEASURE TABLES FOR THE REASONABLY AVAILABLE CONTROL MEASURES (RACM) ANALYSIS IN THE MAG 2017 EIGHT-HOUR OZONE MODERATE AREA PLAN FOR THE MARICOPA NONATTAINMENT AREA

In accordance with Clean Air Act Section 172(c)(1) and 40 CFR Section 51.1112(c), the MAG 2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area is required to include a Reasonably Available Control Measures (RACM) analysis. The analysis must demonstrate that the Moderate Area Plan has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to meet Reasonable Further Progress (RFP) requirements. Additionally, EPA states in the Final Rule on implementation of the 2008 ozone standards that, "EPA is finalizing the interpretation of the CAA requirements that states should consider all available measures, including those being implemented in other areas, and that a state must adopt measures for an area only if those measures are economically and technologically feasible and will advance the attainment date or are necessary for RFP." (80 Fed. Reg. 12,282). To meet these requirements, three draft ozone control measures tables have been prepared for the RACM analysis in the Moderate Area Plan.

The three draft tables address the RACM analysis requirements by (1) identifying the 93 approved, existing ozone control measures in the nonattainment area; (2) comparing the existing measures against EPA's Menu of Control Measures<sup>1</sup>; and (3) comparing the existing NO<sub>x</sub> and VOC rules in the Maricopa nonattainment area to rules in the Sacramento Metropolitan area. The Maricopa nonattainment area rules were compared to the Sacramento Metropolitan area rules since EPA has recently approved Sacramento's 2013 RACM analysis as part of a SIP revision to meet the 1997 8-hour ozone standard (80 Fed. Reg. 4,795, January 29, 2015).

Since preliminary modeling indicates that the existing Maricopa nonattainment area measures are sufficient to demonstrate attainment as expeditiously as practicable and meet RFP requirements, the evaluation of RACM in the draft tables concludes that the adoption of additional or strengthened measures is not necessary. Additionally, any available additional or strengthened measure will not advance the attainment date by at least one year in the

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<sup>1</sup>Detailed information on EPA's Menu of Control Measures can be accessed here:  
<https://www.epa.gov/criteria-air-pollutants/menu-control-measures-naaqs-implementation>

Maricopa nonattainment area, as these measures would have had to be in place by April 1, 2016 at the latest<sup>2</sup>. It is infeasible to have any new measure in place by April 1, 2016, as this date precedes the Moderate Area Plan adoption and submittal date of January 1, 2017, and precedes the June 3, 2016 effective date of the final EPA rule reclassifying the Maricopa nonattainment area from a Marginal Area to a Moderate Area (81 Fed. Reg. 26,697). If you have any questions on the attached tables, please contact me at (602) 254-6300.

Attachments

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<sup>2</sup>A one-year advancement of the attainment date would be July 20, 2017. Since this date occurs in the middle of the 2017 ozone season, any new or strengthened measure would need to be implemented and attainment modeled for the last full ozone season preceding the attainment date, which would be 2016, in this case.

**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
(from EPA Approved Air Quality Plans and Separate EPA Actions)**

Existing Control Measure		Source Category	Pollutant	Source*
1	Phased-In Emission Test Cutpoints	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
2	Enhanced Emission Testing of Constant Four-Wheel Drive Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
3	One-Time Waiver from Vehicle Emissions Test	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
4	Increased Waiver Repair Limit Options	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
5	Gross Polluter Option for I/M Program Waivers	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
6	Catalytic Converter Replacement Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
7	Vehicle Repair Grant Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
8	Voluntary Vehicle Repair and Retrofit Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
9	Tougher Enforcement of Vehicle Registration and Emissions Test Compliance	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
10	Random Roadside Testing of Diesel Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
11	Snap Acceleration Test for Heavy-Duty Diesel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
12	Require Pre-1988 Heavy-Duty Diesel Commercial Vehicles Registered in the Nonattainment Area to Meet 1988 Federal Emissions Standards; Provide Incentives to Encourage Voluntary Accelerated Vehicle Replacement by the Year 2004	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
13	Long-Term Fuel Reformulation: From and After May 1, 1999	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
14	Limit Sulfur Content of Diesel Fuel Oil to 500 ppm	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
15	Diesel Fuel Sampling and Reporting	Onroad/Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

\*Measure may appear in more than one EPA approved plan or action.

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**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
(from EPA Approved Air Quality Plans and Separate EPA Actions)**

Existing Control Measure		Source Category	Pollutant	Source*
16	Alternative Fuel Vehicles for Local Governments, School Districts and Federal Government/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
17	Alternative Fuel Vehicles for State Government/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
18	Alternative Fuel Vehicle and Equipment Tax Incentives/Low Emission Vehicle Requirements	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
19	Public Awareness Program for Alternative Fuels	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
20	National Low Emission Vehicle Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
21	Voluntary Gasoline Vehicle Retirement Program/Maricopa County Travel Reduction Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
22	Oxidation Catalyst for Heavy Duty Diesel Vehicles	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
23	Mass Transit Alternatives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
24	Develop Intelligent Transportation Systems	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
25	Special Event Controls-Required Implementation from List of Approved Strategies	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
26	Voluntary Lawn Mower Emission Reduction Program	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
27	Off-Road Vehicle and Engine Standards	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
28	Encourage the Use of Temporary Electrical Power Lines Rather than Portable Generators at Construction Sites	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
29	Defer Emissions Associated with Government Activities	Onroad/Nonroad/ Area	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
30	Encourage Limitations on Vehicle Idling	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
31	Expansion of Area A boundaries	Onroad/Nonroad/ Area	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

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**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
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Existing Control Measure		Source Category	Pollutant	Source*
32	Voluntary No-Drive Days	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
33	Analysis of Intersource Credit Trading and Banking Program	Onroad/Nonroad/ Area/Point	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
34	Expansion of Public Transportation Programs	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
35	Employer Rideshare Program Incentives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
36	Preferential Parking for Carpools and Vanpools	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
37	Coordinate Traffic Signal Systems	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
38	Reduce Traffic Congestion at Major Intersections	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
39	Site-Specific Transportation Control Measures	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
40	Encouragement of Bicycle Travel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
41	Development of Bicycle Travel Facilities	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
42	Alternative Work Schedules	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
43	Land Use/Development Alternatives	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
44	Encouragement of Pedestrian Travel	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
45	Restrictions on the Use of Gasoline-Powered Blowers for Landscaping Maintenance	Nonroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
46	Alternative Fuels for Fleets	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
47	Areawide Public Awareness Programs	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553

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**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
(from EPA Approved Air Quality Plans and Separate EPA Actions)**

Existing Control Measure		Source Category	Pollutant	Source*
48	Encouragement of Vanpooling	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
49	Trip Reduction Program	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
50	Park and Ride Lots	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
51	Encouragement of Telecommuting, Teleworking and Teleconferencing	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
52	Promotion of High Occupancy Vehicle Lanes and By-Pass Ramps	Onroad	VOC, NOx, CO	Revised MAG 1999 Serious Area Carbon Monoxide Plan (2001) EPA final approval March 2005, 70 FR 11553
53	MCAQD Rule 331 - Solvent Cleaning	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
54	MCAQD Rule 333 - Petroleum Solvent Dry Cleaning	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
55	MCAQD Rule 334 - Rubber Sports Ball Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
56	MCAQD Rule 335 - Architectural and Industrial Coating	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
57	MCAQD Rule 336 - Surface Coating Operations	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
58	MCAQD Rule 337 - Graphic Arts	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
59	MCAQD Rule 338 - Semiconductor Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
60	MCAQD Rule 339 - Vegetable Oil Extraction Process	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
61	MCAQD Rule 340 - Cutback and Emulsified Asphalt	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
62	MCAQD Rule 341 - Metal Casting	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
63	MCAQD Rule 342 - Coating Wood Furniture and Fixtures	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
64	MCAQD Rule 343 - Commercial Bread Bakeries	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
65	MCAQD Rule 344 - Windshield Washer Fluid	Point/Area	VOC	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362

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**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
(from EPA Approved Air Quality Plans and Separate EPA Actions)**

Existing Control Measure		Source Category	Pollutant	Source*
66	MCAQD Rule 346 - Coating Wood Millwork	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
67	MCAQD Rule 347 - Ferrous Sand Casting	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
68	MCAQD Rule 348 - Aerospace Manufacturing and Rework Operations	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
69	MCAQD Rule 349 - Vitamin Manufacturing	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
70	MCAQD Rule 350 - Storage of Organic Liquids at Bulk Plants and Terminals	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
71	MCAQD Rule 351 - Loading of Organic Liquids	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
72	MCAQD Rule 352 - Gasoline Delivery Vessel Testing and Use	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
73	MCAQD Rule 353 - Transfer of Gasoline in Stationary Storage Dispensing Tanks	Point/Area	VOC	Final Serious Area Ozone SIP (2000) EPA final approval June 2005, 70 FR 34362
74	Clean Air Campaign	Onroad/Nonroad/ Point/Area	VOC, NOx, CO	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362
75	Allow Use of High Occupancy Vehicle Lanes and Freeway Ramps by Alternative Fueled Vehicles	Onroad	VOC, NOx, CO	Final Serious Area Ozone SIP, Appendix A. (2000) EPA final approval June 2005, 70 FR 34362
76	MCAQD Rule 358 - Polystyrene Foam Operations	Point/Area	VOC	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285
77	Federal Heavy Duty Diesel Vehicle Emissions Standards (Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, EPA final rule January 2001, 66 FR 5002)	Onroad	VOC, NOx, CO	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285
78	Federal Nonroad Equipment Emissions Standards (Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel, EPA final rule June 2004, 69 FR 38958 and Control of Emissions of Air Pollution From Nonroad Diesel Engines, EPA final rule October 1998, 63 FR 56968)	Nonroad	VOC, NOx, CO	MAG Eight-Hour Ozone Plan (2007) EPA final approval June 2012, 77 FR 35285
79	Ban on Open Burning	Area	VOC, NOx, CO	MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan (2009) EPA final approval September 2014, 79 FR 55645
80	National Autobody Refinishing Rule	Point/Area	VOC	15 Percent Rate of Progress FIP (1998) EPA final rule July 1999, 64 FR 36243
81	National Consumer Products Rule	Area	VOC	15 Percent Rate of Progress FIP (1998) EPA final rule July 1999, 64 FR 36243

\*Measure may appear in more than one EPA approved plan or action.

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**DRAFT TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
(from EPA Approved Air Quality Plans and Separate EPA Actions)**

Existing Control Measure		Source Category	Pollutant	Source*
82	Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements	Onroad	VOC, NOx, CO	EPA final rule February 2000, 65 FR 6698
83	Control of Hazardous Air Pollutants From Mobile Sources (Including VOCs from portable gas cans)	Onroad/Area	VOC	EPA final rule February 2007, 72 FR 8428
84	Control of Emissions of Air Pollution From Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder	Nonroad	VOC, NOx, CO	EPA final rule May 2008, 73 FR 25098
85	Control of Emissions From Nonroad Spark-Ignition Engines and Equipment	Nonroad	VOC, NOx, CO	EPA final rule October 2008, 73 FR 59034
86	MCAQD Rule 322 - Power Plant Operations	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
87	MCAQD Rule 323 - Fuel Burning Equipment from Industrial/Commercial/Institutional (ICI) Sources	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
88	MCAQD Rule 324 - Stationary Internal Combustion (IC) Engines	Point/Area	NOx	EPA final approval October 2009, 74 FR 52693
89	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	Point	VOC, NOx, CO co-benefit	EPA final rule March 2011, 76 FR 15608
90	Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles	Onroad	VOC, NOx, CO co-benefit	EPA final rule September 2011, 76 FR 57106
91	2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards	Onroad	VOC and NOx co-benefit	EPA final rule October 2012, 77 FR 62624
92	National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines	Point/Area	VOC, NOx, CO co-benefit	EPA final rules January 2013, 78 FR 6674; August 2010, 75 FR 51570; March 2010, 75 FR 9648
93	Tier 3 Motor Vehicle Emission and Fuel Standards	Onroad	VOC, NOx, CO	EPA final rule April 2014, 79 FR 23414

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**DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
NOx Controls for Area Sources	Commercial/ Institutional - Natural Gas	Water heater replacement	Water heaters are generally exempted from regulation by MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources. The listed control measure may provide reductions in NOx emissions for water heaters. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Area Sources	Industrial Coal/Natural Gas/Oil Combustion	RACT to 50 tpy, and to 25 tpy (Low NOx Burner)	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A combustion source may select low NOx burners to help meet the NOx emissions limit. This measure may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring a combustion source to use low NOx burners may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Area Sources	Open Burning	Episodic Ban (Daily Only)	Arizona Revised Statute Section 49-501 bans open burning during May 1 through September 30 and is equivalent to this measure.
NOx Controls for Area Sources	Process Heaters - Distillate Oil, Residual Oil, or Other Fuel	Low NOx Burner, and Selective Noncatalytic Reduction	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A process heater may select this control measure to help meet NOx emission limit. This measure may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring all process heaters to use this control measure may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Area Sources	Residential/Commercial/ Institutional Water Heaters and Space Heaters	Low NOx Water Heaters, and Low NOx Burner Space Heaters	Water heaters are generally exempted from regulation by MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources. Space heaters are also normally too small to be regulated by MCAQD Rule 323. This measure may provide reductions in NOx emissions beyond what is required in Rule 323. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Adipic Acid Manufacturing	Extended Absorption, and Thermal Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Ammonia Production - Natural Gas-Fired/Oil-Fired Reformers	Low NOx Burner, Low NOx Burner and Flue Gas Recirculation, Oxygen Trim and Water Injection, Selective Catalytic Reduction, and Selective Non-Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Asphalt Plant Manufacture	Low NOx Burner and Flue Gas Recirculation	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at asphalt batch plants. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

*Note: Maricopa County is revising their existing NOx and VOC rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA AND EPA'S MENU OF CONTROL MEASURES			
Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
NOx Controls for Non-EGU Point Sources	Asphaltic Concrete - Rotary Dryer - Conventional Plant	Low NOx Burner	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at asphalt batch plants. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	By-Product Coke Manufacturing - Oven Underfiring	Selective Non-Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Cement Kilns	Biosolid Injection Technology, Changing Feed Composition, and Process Control Systems	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Cement Manufacturing - Dry and Wet Process	Selective Non-Catalytic Reduction - Ammonia and/or Urea, Low NOx Burner, Mid-Kiln Firing, and Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Ceramic Clay Manufacturing - Drying	Low NOx Burner	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at ceramic clay manufacturing facilities. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Coal Cleaning-Thermal Dryer - Fluidized Bed	Low NOx Burner	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Combustion Turbine - Aeroderivative Gas Turbines/Natural Gas/Oil or Jet Fuel	Water Injection, Low NOx Burner, Selective Catalytic Reduction and Low NOx Burner, Selective Catalytic Reduction and Steam Injection, Selective Catalytic Reduction and Water Injection, and Steam Injection	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A combustion turbine may select these control measures to help meet the NOx emission limit. These measures may provide for reductions in NOx emissions beyond what is required in Rule 323. Requiring all combustion turbines to use these control measure may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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**DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
NOx Controls for Non-EGU Point Sources	Commercial/ Institutional or Industrial Incinerators	Selective Non-Catalytic Reduction, and Selective Catalytic Reduction	No current requirement exists to install these controls. These measures may provide reductions in NOx emissions beyond what is currently required for facilities with incinerators. These measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Fluid Catalytic Cracking Units - Cracking Unit	Low NOx Burner and Flue Gas Recirculation, and Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Furnaces - Natural Gas	Low NOx Burner	Most natural gas furnaces are required to obtain a MCAQD general permit for fuel burning equipment and are too small to be regulated by MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources. No current requirement exists to install this control measure. This measures may provide for reductions in NOx emissions beyond what is required in Rule 323. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Glass Manufacturing - Container/Flat/ General/Pressed	Cullet Preheat, Electric Boost, OXY-Firing, Selective Catalytic Reduction, Selective Non-Catalytic Reduction, and Low NOx Burner	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Industrial Natural Gas Internal Combustion Engines - 2cycle (lean) and 4-cycle (rich)	Low Emission Combustion, and Non-Selective Catalytic Reduction	MCAQD Rule 324, Stationary Internal Combustion (IC) Engines, controls NOx emissions from these sources. A stationary internal combustion engine may select these control measures to help meet the NOx controls and limits in Rule 324. These control measures may provide reductions in NOx emissions beyond what is required in Rule 324. Requiring all stationary internal combustion engines to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

*Note: Maricopa County is revising their existing NOx and VOC rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

**DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
AND EPA'S MENU OF CONTROL MEASURES**

Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
NOx Controls for Non-EGU Point Sources	Industrial/ Commercial/ Institutional Boilers - Bagasse/Coal/Distillate Oil/Gas/Liquid Waste/LPG/Municipal Solid Waste/Natural Gas/Process Gas/Oil/Petroleum Coke/Residual Oil/Wood/Bark/Waste	Coal Reburn, Low NOx Burner, Low NOx Burner and Flue Gas Recirculation, Low NOx Burner and Over Fire Air, Natural Gas Reburn, Oxygen Trim and Water Injection, Selective Catalytic Reduction, Selective Non-Catalytic Reduction, and Selective Non-Catalytic Reduction - Urea	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A boiler may select these control measures to help meet the NOx emission limit. These control measures may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring all boilers to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	In-Process - Bituminous Coal - Cement Kilns or Lime Kilns	Selective Catalytic Reduction, and Selective Non-Catalytic Reduction - Urea	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	In-Process - Process Gas - Coke Oven Gas/Blast Furnace	Low NOx Burner and Flue Gas Recirculation, and Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Internal Combustion Engines - Gasoline/Diesel/LPG/Oil/Natural Gas	Adjust Air to Fuel Ratio, Adjust Air to Fuel Ratio and Ignition Retard, Ignition Retard, Non-Selective Catalytic Reduction, Selective Catalytic Reduction, Low Emissions Combustion (Low Speed), and Low Emissions Combustion (Medium Speed)	MCAQD Rule 324, Stationary Internal Combustion (IC) Engines, controls NOx emissions from this source. A stationary internal combustion engine may select these control measures to help meet the NOx controls and limits in MCAQD Rule 324. These control measures may provide reductions in NOx emissions beyond what is required in Rule 324. Requiring all internal combustion engines to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

*Note: Maricopa County is revising their existing NOx and VOC rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA AND EPA'S MENU OF CONTROL MEASURES			
Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
NOx Controls for Non-EGU Point Sources	Iron & Steel - In-Process Combustion - Bituminous Coal/Natural Gas/Process Gas/Coke Oven Gas/Blast Furnace/Residual Oil	Selective Catalytic Reduction, Low NOx Burner, and Low NOx Burner and Flue Gas Recirculation	No current requirement exists to install these controls. These control measures may provide reductions in NOx emissions beyond what is currently required at iron and steel manufacturers. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Iron & Steel Mills - Annealing/Cupola Melt Furnaces/Galvanizing/Reheating	Low Excess Air, Low NOx Burner, Low NOx Burner and Flue Gas Recirculation, Low NOx Burner and Selective Catalytic Reduction, Low NOx Burner and Selective Non-Catalytic Reduction, Selective Catalytic Reduction, and Selective Non-Catalytic Reduction	No current requirement exists to install these controls. These control measures may provide reductions in NOx emissions beyond what is currently required at iron and steel manufacturers. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Iron Production - Blast Furnace - Blast Heating Stoves	Low NOx Burner and Flue Gas Recirculation	No current requirement exists to install these controls. These control measures may provide reductions in NOx emissions beyond what is currently required at iron manufacturers. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Lime Kilns	Low NOx Burner	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Medical Waste Incinerators	Selective Non-Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Natural Gas Production - Compressors	Selective Catalytic Reduction	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A compressor may select this control measure to help meet the NOx emission limit. This control measure may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring all compressors to use this control measure may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Nitric Acid Manufacturing	Extended Absorption, Non-Selective Catalytic Reduction, and Selective Catalytic Reduction	Source not present in the nonattainment area.

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**DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
NOx Controls for Non-EGU Point Sources	Primary Copper Smelters - Reverberatory Smelter Furnace	Low NOx Burner and Flue Gas Recirculation	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Process Heaters - Distillate Oil/LPG/Natural Gas/Process Gas/Residual Oil/Other Fuel	Low NOx, Burner, Low NOx Burner and Flue Gas Recirculation, Low NOx Burner and Selective Catalytic Reduction, Low NOx Burner and Selective Non-Catalytic Reduction, Selective Catalytic Reduction, Selective Non-Catalytic Reduction, and Ultra-Low NOx Burner	MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources, includes a parts per million by volume (ppmv) NOx emission limit. A process heater may select these control measures to help meet NOx emission limit. These control measures may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring all process heaters to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Pulp and Paper - Natural Gas - Incinerators	Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Sand/ Gravel - Dryer	Low NOx Burner and Flue Gas Recirculation	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at sand and gravel facilities. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Secondary Aluminum Production - Smelting Furnace/ Reverberatory	Low NOx Burner	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at secondary aluminum production facilities. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Sewage Sludge Incinerators	Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Space Heaters - Distillate Oil/Natural Gas	Low NOx Burner, Low NOx Burner and Flue Gas Recirculation, Oxygen Trim and Water Injection, Selective Catalytic Reduction, and Selective Non-Catalytic Reduction	Most space heaters in the nonattainment area are too small to be regulated by MCAQD Rule 323, Fuel Burning Equipment From Industrial/Commercial/Institutional (ICI) Sources or through a fuel burning general permit. These control measures may provide reductions in NOx emissions beyond what is required in Rule 323. Requiring these control measures is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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**DRAFT COMPARISON TABLE OF EXISTING OZONE CONTROL MEASURES IN THE MARICOPA EIGHT-HOUR OZONE NONATTAINMENT AREA  
AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
NOx Controls for Non-EGU Point Sources	Steel Foundries - Heat Treating Furnaces/Soaking Pits	Low NOx Burner, and Low NOx Burner and Flue Gas Recirculation	No current requirement exists to install these controls. These control measures may reductions in NOx emissions beyond what is currently required at steel foundries. These measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Sulfate Pulping - Recovery Furnaces	Low NOx Burner, Low NOx Burner and Flue Gas Recirculation, Oxygen Trim and Water Injection, Selective Catalytic Reduction, and Selective Non-Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Surface Coating Operations - Coating Oven Heater -Natural Gas	Low NOx Burner	No current requirement exists to install this control. This measure may provide reductions in NOx emissions beyond what is currently required at surface coating operations. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Non-EGU Point Sources	Taconite Iron Ore Processing - Induration - Coal or Gas	Selective Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Textile-Type Fiberglass Manufacturing - Recuperative Furnace	Low NOx Burner	Source not present in the nonattainment area.
NOx Controls for Non-EGU Point Sources	Waste Incineration - Municipal Waste Combustors or Solid Waste Disposal - Sludge Incinerators (Government)	Selective Non-Catalytic Reduction	Source not present in the nonattainment area.
NOx Controls for Electricity Generating Units (EGUs)	External Combustion Boilers - Electric Generation - Natural Gas (Tangential or Non-Tangential Firing)/Coal/Residual Oil/Solid Waste/Distillate Oil	Natural Gas Reburn, and Selective Non-Catalytic Reduction	MCAQD Rule 322, Power Plant Operations, includes a parts per million by volume (ppmv) NOx emission limit. An EGU may select these control measures to help meet the NOx emission limit. These control measures may provide reductions in NOx emissions beyond what is required in Rule 322. Requiring all EGUs to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
NOx Controls for Electricity Generating Units (EGUs)	External Combustion Boilers for Electricity Generation	Energy Efficiency Policies & Programs	Energy efficiency programs exist within the nonattainment area but have not been specifically identified and included in prior air quality plans addressing ozone. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Electricity Generating Units (EGUs)	Utility Boiler - Coal Wall/Coal Tangential/Cyclone/Oil-Gas Tangential/Oil-Gas Wall	Low NOx Burner, Low NOx Burner and Over Fire Air, Low NOx Coal-and-Air Nozzles with Cross-Coupled and Separated Over Fire Air, Low NOx Coal-and-Air Nozzles with Cross-Coupled Over Fire Air, Low NOx Coal-and-Air Nozzles with Separated Over Fire Air, Natural Gas Reburn, Selective Catalytic Reduction, and Selective Non-Catalytic Reduction	MCAQD Rule 322, Power Plant Operations, includes a parts per million by volume (ppmv) NOx emission limit. An EGU may select these control measures to help meet the NOx emission limit. These control measures may provide reductions in NOx emissions beyond what is required in Rule 322. Requiring all EGUs to use these control measures may not result in reduced NOx emissions in all cases and is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Adhesives - Industrial	Reformulation	Industrial adhesives are regulated in multiple MCAQD coating rules. The VOC content limits for adhesives in the listed measure may provide reductions in VOC emissions beyond what is currently required in MCAQD rules. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Aerosol Coatings		This measure refers to the EPA final rule, National Volatile Organic Compound Emission Standards for Aerosol Coatings, which limits the reactivity of the VOCs in aerosol coatings (73 FR 15604). This final rule became effective on March 24, 2008. The nonattainment area is already subject to this national rule.
VOC Controls for Point and Area Sources	Architectural, Traffic, and Industrial Maintenance Coatings	OTC Model Rule and South Coast -Rule 1113 Phase III VOC limits	MCAQD Rule 335, Architectural Coatings, limits VOC emissions from architectural, traffic and industrial maintenance coatings. The listed measure contains VOC limits that may provide reductions in VOC emissions beyond what is required in Rule 335. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Auto and Light-Duty Truck Assembly Coatings	Control Technique Guidelines	MCAQD Coatings Rule 345, Vehicle and Mobile Equipment Coating, limits VOC emissions from auto and light-duty truck assembly coatings. The listed measure may provide reductions in VOC emissions beyond what is required in Rule 345. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
VOC Controls for Point and Area Sources	Bakery Products	Catalytic Incineration	MCAQD Rule 343, Commercial Bread Bakeries, limits VOC emissions from bakeries. The listed measure requires a higher VOC capture and control percentage rate than Rule 343 and may provide reductions in VOC emissions beyond what is required in Rule 343. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Coating Operations at Aerospace Manufacturing and Rework Operations	Control Technique Guidelines	MCAQD Coating Rule 348, Aerospace Manufacturing and Rework Operations, limits VOC emissions from aerospace manufacturing and rework operations. Rule 348 is equivalent to this control measure.
VOC Controls for Point and Area Sources	Cold Cleaning Degreasing	Process Modification, Reformulation-Process Modification (OTC Rule)	MCAQD Rule 331, Solvent Cleaning, limits VOC emissions from solvent cleaning. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 331. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Consumer Products	California Consumer Products Rules Cumulative through 2010 Proposed Amendments, Reformulation (2001 and 2006 OTC Model Rule)	Consumer products in the nonattainment area are regulated by EPA's national rule. This measure may provide for reductions in VOC emissions beyond what is required in the national rule. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Cutback Asphalt	Reformulation-Process Modification	MCAQD Rule 340, Cutback and Emulsified Asphalt, limits VOC emissions from asphalt application. Not enough information is provided to evaluate if this measure would provide VOC reductions beyond what is required in Rule 340.
VOC Controls for Point and Area Sources	Fabric Printing and Coating	Permanent Total Enclosure (PTE)	MCAQD Coating Rule 336, Miscellaneous Surface Coatings Operations, limits VOC emissions from the coating of fabric. The listed control measure may provide for reductions in VOC emissions beyond what is required in Rule 336. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Fiberglass Boat Manufacturing	Solvent substitution, non-atomized resin application methods	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Flat Wood Paneling Coatings	Low-VOC materials coatings	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Flexible Package Printing	Add-on controls, work practices, and material reformulation or substitution	MCAQD Rule 337, Graphic Arts, limits VOC emissions from printing operations and is equivalent to these measures.

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AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
VOC Controls for Point and Area Sources	Flexographic Printing	Permanent Total Enclosure (PTE)	MCAQD Rule 337, Graphic Arts, limits VOC emissions from printing operations. A permanent total enclosure is one type of emission control system that may be used to meet the requirements of Rule 337 and may provide higher VOC capture and control efficiencies than other systems, possibly resulting in the reduction of VOC emissions beyond what is required in Rule 337. Requiring this particular type of control for all flexographic printing operations is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Industrial Cleaning Solvents, Non-Halogenated Solvent - Parts Cleaners, Other Non-Halogenated Solvent Cleaning Operations	Solvent Substitution, and Add-on Controls, Low VOC Cleaning Materials and Improved Work Practices	MCAQD Rule 331, Solvent Cleaning, limits VOC emissions from solvent cleaning and is equivalent to these measures.
VOC Controls for Point and Area Sources	Large Appliance Surface Coating	Low-VOC coating materials	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Lithographic Printing & Letterpress Printing	Add-on controls, work practices, and material reformulation or substitution	MCAQD Rule 337, Graphic Arts, limits VOC emissions from printing operations and is equivalent to these measures.
VOC Controls for Point and Area Sources	Metal Can and Coil Surface Coating	Incineration, Permanent Total Enclosure (PTE), Process Modification	MCAQD Coating Rule 336, Miscellaneous Surface Coating Operations, limits VOC emissions from the coating of metal cans and coils. The listed control measures may provide reductions in VOC emissions beyond what Rule 336 requires. These control measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Metal Furniture Coatings	materials, Permanent Total Enclosure, and Reduced Solvent Utilization	MCAQD Coating Rule 336, Miscellaneous Surface Coating Operations, limits VOC emissions from the coating of metal furniture. The listed control measures may provide reductions in VOC emissions beyond what is required in Rule 336. These control measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Metal Furniture, Appliances, Parts	Reformulation-Process Modification	MCAQD Coating Rule 336, Miscellaneous Surface Coating Operations, limits VOC emissions from the coating of metal furniture, appliances and parts. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 336. This control measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Metal Parts and Products coating	Reformulation-Process Modification	MCAQD Coating Rule 336, Miscellaneous Surface Coating Operations, limits VOC emissions from the coating of metal parts and products. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 336. This control measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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AND EPA'S MENU OF CONTROL MEASURES**

<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
VOC Controls for Point and Area Sources	Miscellaneous Industrial Adhesives	Low VOC Adhesives and Improved Application Methods, Solvent Substitution	Industrial adhesives are regulated in multiple MCAQD coating rules. The VOC content limits for adhesives in the listed measures may provide reductions in VOC emissions beyond what is currently required in MCAQD rules. These measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Miscellaneous Metal and Plastic Parts Coatings	Coating Reformulation	MCAQD Coating Rule 336, Miscellaneous Surface Coatings Operations, limits VOC emissions from the coating of metal and plastic parts and is equivalent to this measure.
VOC Controls for Point and Area Sources	Mobile Equipment Repair and Refinishing	California Air Resources Board - Suggested Control Measures for Automotive Coatings, OTC Model Rule	MCAQD Coatings Rule 345, Vehicle and Mobile Equipment Coating, limits VOC emissions from mobile equipment. The listed measure may provide reductions in VOC emissions beyond what is required in Rule 345. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Municipal Solid Waste Landfill	Gas Recovery	MCAQD Rule 321, Municipal Solid Waste Landfills, limits VOC emissions from landfills and is equivalent to this control measure.
VOC Controls for Point and Area Sources	Oil and Natural Gas Production - Fugitive Emissions	SCAQMD Rule 1148.1	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Open Top Degreasing	Process Modification, Reformulation-Process Modification	MCAQD Rule 331, Solvent Cleaning, limits VOC emissions from solvent cleaning. The listed control measure is based off of SCAQMD Rule 1122, which may provide reductions in VOC emissions beyond what is required in Rule 331. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Paper Film and Foil Coatings	Low-VOC coating materials and/or add-on controls	MCAQD Coating Rule 336, Miscellaneous Surface Coatings Operations, limits VOC emissions from the coating of paper film and foil and is equivalent to this measure.
VOC Controls for Point and Area Sources	Pesticide Application	Reformulation	The nonattainment area does not currently regulate the VOC content of pesticides. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Petroleum Flare	Flare	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Petroleum Refinery Fugitives	Process Modification	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Petroleum Wastewater	Wastewater	Source not present in the nonattainment area.

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Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
VOC Controls for Point and Area Sources	Pharmaceutical and Cosmetic Manufacturing Operations	SCAQMD Rule 1103	MCAQD Rule 349, Pharmaceutical, Cosmetic, and Vitamin Manufacturing Operations, limits VOC emissions from pharmaceutical and cosmetic manufacturing operations. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 349. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Polystyrene Foam Manufacturing	Control Technique Guidelines	MCAQD Rule 358, Polystyrene Foam Operations, limits VOC emissions from polystyrene foam manufacturing and is equivalent to this measure.
VOC Controls for Point and Area Sources	Rubber/Plastics Coating	Reformulation-Process Modification	MCAQD Coating Rule 336, Miscellaneous Surface Coating Operations, limits VOC emissions from the coating of rubber and plastics. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 336. This control measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Semi-Conductor Manufacturing	Reformulation-Process Modification	MCAQD Rule 338, Semiconductor Manufacturing, limits VOC emissions from semiconductor manufacturing. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 338. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Shipbuilding and Ship Repair (Surface Coating)	Incineration, Reformulation, and Process Modification	Source not present in the nonattainment area.
VOC Controls for Point and Area Sources	Stage II Service Stations - Underground Tanks (Breathing and Emptying)	LPV Relief Valve	EPA has approved the phased removal of Stage II controls in the nonattainment area to avoid a VOC emissions disbenefit beginning in 2018.
VOC Controls for Point and Area Sources	Storage Tanks at Petroleum Facilities	SCAQMD Rule 1178	MCAQD Rule 350, Storage of Organic Liquids at Bulk Plants and Terminals, limits VOC emissions from storage tanks. The listed control measure may provide reductions in VOC emissions beyond what is required in Rule 350. This control measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Wood Furniture Surface Coating	Add-On Controls, and Control Technique Guidelines	MCAQD Coating Rule 342, Coating Wood Furniture and Fixtures, limits VOC emissions from the coating of wood furniture. The listed control measures may provide reductions in VOC emissions beyond what is required in Rule 342. These measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Point and Area Sources	Wood Product Surface Coating	Incineration, and Reformulation	MCAQD Coating Rule 342, Coating Wood Furniture and Fixtures, and MCAQD Coatings Rule 346, Coating Wood Millwork limit VOC emissions from the coating of wood products. The listed control measures may provide reductions in VOC emissions beyond what is required in Rule 342 or Rule 346. These control measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

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Control Category	Source Category	EPA Emission Reduction Measure(s) from Menu of Controls	Evaluation of EPA Measure
NOx Controls for Onroad and Nonroad Mobile Sources	Onroad Heavy Duty Diesel Vehicles (Class 6 and above)	Diesel Retrofit, and Eliminate Long Duration Idling	Existing measures have been implemented within the nonattainment area that are equivalent to these control measures (see measure number 8 and 30 in table of existing ozone control measures). MCAQD Ordinance P-21 also limits vehicle idling.
NOx Controls for Onroad and Nonroad Mobile Sources	Onroad Light Duty Vehicles	Continuous Inspection and Maintenance	The listed measure may provide reductions in NOx emissions beyond what is required in the current vehicle inspection and maintenance program. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Onroad and Nonroad Mobile Sources	Onroad Light Duty Gasoline Vehicles and Trucks	Travel Efficiency Strategies	Many existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measures 35-44 in table of existing measures as examples).
NOx Controls for Onroad and Nonroad Mobile Sources	Onroad and Nonroad Vehicles	Ozone Action Days - Education and promotion campaigns	The Arizona Department of Environmental Quality provides public notification of High Pollution Advisory Days and Health Watch Days during the ozone season in the nonattainment area.
NOx Controls for Onroad and Nonroad Mobile Sources	Nonroad Aircraft Ground Support Equipment	Alternative Fuels - CNG/LPG/Electric	Conversion of aircraft ground support equipment to LPG or CNG engines is not a currently required control measure. The listed measure may provide reductions in NOx emissions. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Onroad and Nonroad Mobile Sources	Nonroad Commercial Marine - Ocean Going Vessels	Shore Based Electrical Power - Cold Ironing	Source not present in the nonattainment area.
NOx Controls for Onroad and Nonroad Mobile Sources	Nonroad Heavy Duty Diesel Equipment	Diesel Retrofits and Engine Rebuilds	Diesel retrofits and engine rebuilds for nonroad equipment is not a currently required control measure. The listed measure may provide reductions in NOx emissions. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx Controls for Onroad and Nonroad Mobile Sources	Nonroad Locomotives	Idling Reduction, and Upgrade Engines in Switcher Locomotives - Diesel-electric hybrid locomotives	These control measures for locomotives are currently not required. These measures may provide reductions in NOx emissions. These measures are not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad and Nonroad Gasoline Vehicles	Opt into Reformulated Gasoline (RFG) standards	Existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measure number 13 in table of existing ozone control measures).

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<b>Control Category</b>	<b>Source Category</b>	<b>EPA Emission Reduction Measure(s) from Menu of Controls</b>	<b>Evaluation of EPA Measure</b>
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad and Nonroad Gasoline Vehicles	Petition EPA to remove the 1 psi allowance for 9-10% ethanol blends	Petitioning EPA to remove the 1 psi allowance for 9-10% ethanol blends is not a currently required control measure. This measure may provide reductions in VOC emissions. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad and Nonroad Vehicles	Ozone Action Days - Education and promotion campaigns	The Arizona Department of Environmental Quality provides public notification of High Pollution Advisory Days and Health Watch Days during the ozone season in the nonattainment area.
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad Heavy Duty Vehicles	Alternative Fuel Programs	Existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measure numbers 16-19 in table of existing ozone control measures).
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad Gasoline Vehicles	Low RVP Gasoline	Existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measure number 13 in table of existing ozone control measures).
VOC Controls for Onroad and Nonroad Mobile Sources	Nonroad Gasoline Vehicles	Low RVP Gasoline	Existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measure number 13 in table of existing ozone control measures).
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad Light Duty Vehicles	Continuous Inspection and Maintenance	The listed measure may provide reductions in VOC emissions beyond what is required in the current vehicle inspection and maintenance program. This measure is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC Controls for Onroad and Nonroad Mobile Sources	Onroad Light Duty Gasoline Vehicles and Trucks	Travel Efficiency Strategies	Many existing measures have been implemented within the nonattainment area that are equivalent to this control measure (see measures 35-44 in table of existing measures as examples).

*Note: Maricopa County is revising their existing NOx and VOC rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

**DRAFT COMPARISON TABLE OF SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD)  
AND EXISTING MARICOPA COUNTY AIR QUALITY DEPARTMENT (MCAQD) NOX AND VOC RULES**

<b>Pollutant</b>	<b>Sacramento Metropolitan Rule (date last amended)</b>	<b>Existing Maricopa County Rule (date last amended)</b>	<b>Evaluation of SMAQMD Rule</b>
NOx	Rule 411 - NOx from Boilers, Process Heaters and Steam Generators (8-23-2007)	Rule 323 - Fuel Burning Equipment From Industrial/Commercial/ Institutional (ICI) Sources (10-17-2007)	Sections of SMAQMD Rule 411 contain provisions that may provide reductions in NOx emissions beyond what is currently required in MCAQD Rule 323, such as lower NOx emission limits and lower BTU/hr exemption limits for boilers, process heaters and steam generators. Adoption of these provisions of Rule 411 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx	Rule 412 - Stationary IC Engines at Major Stationary Sources of NOx (6-01-1995)	Rule 324 - Stationary Internal Combustion (IC) Engines (10-17-2007)	Sections of SMAQMD Rule 412 contain provisions that may provide reductions in NOx emissions beyond what is currently required in MCAQD Rule 324, such as lower NOx emission limits for existing stationary internal combustion engines. Adoption of these provisions of Rule 412 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx	Rule 413 - Stationary Gas Turbines (3-24-2005)	Rule 322 - Power Plant Operations (10-17-2007)	Sections of SMAQMD Rule 413 contain provisions that may provide reductions in NOx emissions beyond what is currently required in MCAQD Rule 322, such as lower NOx emission limits for stationary gas turbines. Adoption of these provisions of Rule 413 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
NOx	Rule 414 - Water Heaters, Boilers and Process Heaters Rated Less than 1,000,000 BTU per Hour (3-25-2010)	N/A	MCAQD currently does not have a rule that is similar to SMAQMD Rule 414. Boilers and process heaters in the nonattainment area rated greater than 300,000 BTU/hr may be regulated through a general or site-specific permit. There are no NOx limits currently for equipment of this size in the nonattainment area. Adoption of a rule similar to SMAQMD Rule 414 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 441 - Organic Solvents (12-6-1978)	Rule 330 - Volatile Organic Compounds (9-25-2013)	MCAQD Rule 330 provides equivalent control of VOC emissions as compared to SMAQMD Rule 441.
VOC	Rule 442 - Architectural Coatings (9-24-2015)	Rule 335 - Architectural Coatings (9-25-2013)	Sections of SMAQMD Rule 442 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 335, such as lower VOC content limits for architectural coatings. Adoption of these provisions of Rule 442 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 443 - Leaks from Synthetic Organic Chemical and Polymer Manufacturing (9-5-1996)	N/A	MCAQD currently does not have a rule that is similar to SMAQMD Rule 443. Sources in the nonattainment area that would be subject to SMAQMD's Rule 443 are regulated through source-specific permits and MCAQD's other VOC rules that may apply to these operations. Adoption of a rule similar to SMAQMD Rule 443 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 444 - Petroleum Solvent Dry Cleaning (8-13-1981)	Rule 333 - Petroleum Solvent Dry Cleaning (9-25-2013)	MCAQD Rule 333 provides equivalent control of VOC emissions as compared to SMAQMD Rule 444.

*Note: Maricopa County is revising their existing VOC and NOx rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

**DRAFT COMPARISON TABLE OF SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD)  
AND EXISTING MARICOPA COUNTY AIR QUALITY DEPARTMENT (MCAQD) NOX AND VOC RULES**

<b>Pollutant</b>	<b>Sacramento Metropolitan Rule (date last amended)</b>	<b>Existing Maricopa County Rule (date last amended)</b>	<b>Evaluation of SMAQMD Rule</b>
VOC	Rule 446 - Storage of Petroleum Products (11-16-1993)	Rule 350 - Storage of Organic Liquids at Bulk Plants and Terminals (4-6-1992)	MCAQD Rule 350 provides equivalent control of VOC emissions as compared to SMAQMD Rule 446.
VOC	Rule 447 - Organic Liquid Loading (4-02-1998)	Rule 351 - Loading of Organic Liquids (2-15-1995)	Sections of SMAQMD Rule 447 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 351, such as a lower vapor pressure exemption limit for organic liquids. Adoption of these provisions of Rule 447 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 448 - Gasoline Transfer into Stationary Storage Containers (2-26-2009)	Rule 353 - Gasoline in Stationary Dispensing Tanks (9-25-2013) and Rule 352 Gasoline Delivery Vessel Testing and Use (9-25-2013)	Sections of SMAQMD Rule 448 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rules 352 and 353, such as a lower exemption limit for vapor recovery controls on gasoline storage tanks. Adoption of these provisions of Rule 448 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 449 - Transfer of Gasoline into Vehicle Fuel Tanks (2-26-2009)	N/A	On November 16, 2015, EPA approved removal of Stage II vapor recovery systems in the Maricopa nonattainment area in order to avoid a VOC disbenefit beginning in 2018 from the use of such systems in the nonattainment area. Adoption of SMAQMD Rule 449 is therefore not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 450 - Graphic Arts Operations (10-23-2008)	Rule 337 - Graphic Arts (8-17-2011)	Sections of SMAQMD Rule 450 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 337, such as lower exemption limits for VOC content limits on inks and coatings. Adoption of these provisions of Rule 450 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 451 - Surface Coating of Miscellaneous Metal Parts and Products (10-28-2010)	Rule 336 - Surface Coating Operations (9-25-2013)	Sections of SMAQMD Rule 451 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 336, such as lower VOC content limits for solvents used in the cleaning of application equipment. Adoption of these provisions of Rule 451 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 452 - Can Coating (9-25-2008)	Rule 336 - Surface Coating Operations (9-25-2013)	Sections of SMAQMD Rule 452 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 336, such as lower VOC content limits for can coatings. Adoption of these provisions of Rule 452 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 453 - Cutback and Emulsified Asphalt Paving Materials (8-31-1982)	Rule 340 - Cutback and Emulsified Asphalt (9-25-2013)	MCAQD Rule 340 provides equivalent control of VOC emissions as compared to SMAQMD Rule 453.

*Note: Maricopa County is revising their existing VOC and NOx rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

**DRAFT COMPARISON TABLE OF SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD)  
AND EXISTING MARICOPA COUNTY AIR QUALITY DEPARTMENT (MCAQD) NOX AND VOC RULES**

<b>Pollutant</b>	<b>Sacramento Metropolitan Rule (date last amended)</b>	<b>Existing Maricopa County Rule (date last amended)</b>	<b>Evaluation of SMAQMD Rule</b>
VOC	Rule 454 - Degreasing Operations (9-25-2008)	Rule 331 - Solvent Cleaning (9-25-2013)	Sections of SMAQMD Rule 454 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 331, such as lower VOC content limits for cleaning solvents. Adoption of these provisions of Rule 454 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 455 - Pharmaceuticals Manufacturing (9-5-1996)	Rule 349 - Pharmaceutical, Cosmetic and Vitamin Manufacturing Operations (9-25-2013)	MCAQD Rule 349 provides equivalent control of VOC emissions as compared to SMAQMD Rule 455.
VOC	Rule 456 - Aerospace Coating Operations (10-23-2008)	Rule 348 - Aerospace Manufacturing and Rework Operations (9-25-2013)	Sections of SMAQMD Rule 456 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 348, such as lower VOC content limits for aerospace coatings. Adoption of these provisions of Rule 456 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 458 - Large Commercial Bread Bakeries (9-5-1996)	Rule 343 - Commercial Bread Bakeries (9-25-2013)	Sections of SMAQMD Rule 458 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 343, such as a higher VOC control efficiency for bakery ovens and a lower rule exemption level. Adoption of these provisions of Rule 458 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 459 - Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations (8-25-2011)	Rule 345 - Vehicle and Mobile Equipment Coating (9-25-2013)	Sections of SMAQMD Rule 459 contain provisions that may provide reductions in VOC emissions beyond what is required in MCAQD Rule 345, such as lower VOC content limits for vehicle and mobile equipment coatings. Adoption of these provisions of Rule 459 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 460 - Adhesives and Sealants (11-30-2000)	N/A	MCAQD currently regulates adhesives and sealants in their suite of coating rules. Sections of SMAQMD Rule 460 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD coatings rules, such as lower VOC content limits for adhesives and sealants. Adoption of a rule similar to SMAQMD Rule 460 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 463 - Wood Products Coatings (9-25-2008)	Rule 342 - Coating Wood Furniture (9-25-2013) and Rule 346 - Coating Wood Millwork (9-25-2013)	Sections of SMAQMD Rule 463 contain provisions that may provide reductions in VOC emissions beyond what is currently required in MCAQD Rule 342 and MCAQD Rule 346, such as lower VOC content limits for wood coatings. Adoption of these provisions of Rule 463 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 464 - Organic Chemical Manufacturing Operations (9-25-2008)	N/A	MCAQD currently does not have a rule that is similar to SMAQMD Rule 464. Sources in the nonattainment area that would be subject to SMAQMD's Rule 464 are regulated through source-specific permits and MCAQD's other VOC rules that may apply to these operations. Adoption of a rule similar to SMAQMD Rule 464 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

*Note: Maricopa County is revising their existing VOC and NOx rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

**DRAFT COMPARISON TABLE OF SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD)  
AND EXISTING MARICOPA COUNTY AIR QUALITY DEPARTMENT (MCAQD) NOX AND VOC RULES**

<b>Pollutant</b>	<b>Sacramento Metropolitan Rule (date last amended)</b>	<b>Existing Maricopa County Rule (date last amended)</b>	<b>Evaluation of SMAQMD Rule</b>
VOC	Rule 465 - Polyester Resin Operations (9-25-2008)	N/A	MCAQD currently does not have a rule that directly controls VOC emissions from polyester resin operations. Sources that perform polyester resin operations in the nonattainment area are currently regulated by site-specific permits. Adoption of the VOC controls in SMAQMD Rule 465 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 466 - Solvent Cleaning (10-28-2010)	Rule 331 - Solvent Cleaning (9-25-2013)	Sections of SMAQMD Rule 466 contain provisions that may provide reductions in VOC emissions beyond what currently exists in MCAQD Rule 331, such as lower VOC content limits of cleaning solvents. Adoption of these provisions of Rule 466 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.
VOC	Rule 485 - Municipal Landfill Gas (7-23-2008)	Rule 321 - Municipal Solid Waste Landfills (11-18-2015)	MCAQD Rule 321 provides equivalent control of VOC emissions as compared to SMAQMD Rule 485.
VOC	Rule 496 - Large Confined Animal Operations (8-24-06)	N/A	There are currently no requirements to control VOC emissions from large confined animal operations in the nonattainment area. Adoption of a rule similar to SMAQMD Rule 496 is not necessary for attainment or reasonable further progress and will not advance the Moderate Area attainment date.

*Note: Maricopa County is revising their existing VOC and NOx rules as necessary to meet Clean Air Act Reasonably Available Control Technology (RACT) requirements.*

June 24, 2016

Ms. Heidi Haggerty  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

Dear Ms. Haggerty:

The Maricopa Association of Governments (MAG) is pleased to submit comments on the May 31, 2016 Arizona Department of Environmental Quality (ADEQ) 2015 Ozone NAAQS Boundary Recommendation Draft Report. We appreciate that the Draft Report includes as the first recommendation that the current Maricopa ozone boundary will not need to be expanded if the Queen Valley or Tonto National Monument monitors do not violate the 2015 ozone standard based upon future ozone design values. This recommendation aligns with MAG's comment that monitor data from the 2016 ozone season should be evaluated first to determine if the monitors have met the standard or if it is necessary to revise the boundary recommendation, since the Queen Valley and Tonto National Monument monitors only slightly exceed the standard and there is a downward trend at the monitors.

Additional comments in support of not expanding the current Maricopa ozone boundary at this time are attached to this letter. We look forward to working cooperatively with the Arizona Department of Environmental Quality in our efforts to improve air quality. If you have any questions on our comments, please do not hesitate to contact Lindy Bauer at (602) 254-6300.

Sincerely,



Dennis Smith  
Executive Director

June 24, 2016

MAG Comments on the May 31, 2016  
Arizona Department of Environmental Quality (ADEQ)  
2015 Ozone NAAQS Boundary Recommendation Draft Report

1. On page 31, the ADEQ “recommends four data-contingent 2015 Ozone NAAQS nonattainment area boundaries for the Phoenix area.” The first boundary listed by ADEQ recommends that the nonattainment area boundary for the 2015 ozone standard remain the same as the current nonattainment area boundary for the 2008 ozone standard, if neither the Queen Valley monitor in Pinal County or the Tonto National Monument monitor in Gila County violate the 2015 ozone standard based upon future ozone design values. This first recommendation is consistent with MAG Regional Council action taken on April 27, 2016, approving that a letter be sent to ADEQ requesting that the Maricopa ozone boundary not be expanded at this time, since the Queen Valley and Tonto National Monument monitors only slightly exceed the standard and there is a downward trend at the monitors. The May 3, 2016 letter to ADEQ also stated that monitor data from the 2016 ozone season should be evaluated first to determine if the monitors have met the standard or if it is necessary to revise the boundary recommendation. A copy of the May 3, 2016 letter to ADEQ is attached to these comments.
2. On page 36, ADEQ discusses the long-term and short-term downward trends in ozone concentrations at the Queen Valley and Tonto National Monument monitors in support of retaining the existing Maricopa ozone nonattainment area as the recommended boundary for the 2015 ozone standard. In addition to the information presented by ADEQ on this page, the following information provides additional evidence as to why the Maricopa ozone nonattainment area boundary should not be expanded at this time:
  - A. Preliminary exceedances of the 2015 ozone standard at the Queen Valley and Tonto National Monument monitors in the 2016 ozone season may in some cases be the result of exceptional events caused by wildfires and stratospheric intrusions of ozone.

Located north and east of the Queen Valley and Tonto National Monument monitors, the Juniper fire burned in the Tonto National Forest from mid-May to mid-June 2016. Satellite photos show smoke from the Juniper fire blowing towards the Queen Valley and Tonto National Monument monitors on multiple dates. Exceedances of the 2015 ozone standard occurred at the Queen Valley and Tonto National Monument monitors in late May and early June when the Juniper fire was most active, making it possible that the Juniper fire contributed to these recorded ozone exceedances. Additionally, the exceedance on April 24, 2016 at the Queen Valley monitor may have been influenced by stratospheric intrusion of ozone, as indicated by weather conditions during the exceedance. Exclusion of exceedances during this period as exceptional events will lower the ozone design values at these monitors and may result in the Queen Valley and Tonto National Monument monitors meeting the 2015 ozone standard with data from the 2016 ozone season, making expansion of the Maricopa ozone nonattainment area boundary unnecessary.

- B. Preliminary 2016 ozone concentrations at the Queen Valley monitor were recorded while the monitor was operating with a consistent bias towards recording higher ozone concentrations than may have actually occurred.

ADEQ staff has indicated that ozone calibration trend data at the Queen Valley monitor was consistently biased upward by 2.5 to 3 percent through early June of the 2016 ozone season. This could result in the Queen Valley monitor recording ozone concentrations that are approximately 0.002 parts per million (ppm) higher than they actually were. This is not an insignificant value, given that some of the preliminary 2016 exceedances recorded at the Queen Valley monitor are only 0.001 to 0.002 ppm higher than the 2015 ozone standard. Additionally, a 0.002 ppm difference in 2016 ozone concentrations may determine whether the monitor meets or violates the standard with 2014-2016 ozone concentration data. Monitor concentrations during this period (approximately April - June 5, 2016) at the Queen Valley monitor should be critically evaluated given the known high bias of the recorded ozone concentrations and may be an over-representation of actual ozone concentrations at the monitor.

- C. The Queen Valley and Tonto National Monument monitors are located in or very near the Tonto National Forest, making these monitors subject to high levels of background ozone.

EPA's white paper<sup>1</sup> on background ozone acknowledges that background ozone concentrations are known to be highest in the rural areas of the intermountain west, including locations such as the Tonto National Monument monitor situated in the middle of the Tonto National Forest, and the Queen Valley monitor located on the edge of the Tonto National Forest. These areas are particularly subject to increases in ozone from natural sources such as vegetation, wildfires, and stratospheric intrusions, along with ozone from interstate and international transport. EPA's white paper estimates that in 2017, 67% of the ozone concentration at the Queen Valley monitor and 64% of the ozone concentration at the Tonto National Monument monitor will be due to background ozone. This in contrast to the current Maricopa nonattainment area, where the estimated contribution of background ozone in 2017 is 52%. Since background ozone concentrations are uncontrollable, expanding the Maricopa nonattainment area to include the rural Tonto National Monument and Queen Valley monitors will provide no clear benefit in reducing background ozone concentrations or in meeting the 2015 ozone standard at these monitors.

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<sup>1</sup> *Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone. White Paper for Discussion.* U.S. Environmental Protection Agency. December 30, 2015.

May 3, 2016

Mr. Misael Cabrera, Director  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

Dear Mr. Cabrera:

The Maricopa Association of Governments (MAG) has appreciated the opportunity to participate in the Arizona Department of Environmental Quality (ADEQ) stakeholder meetings on the 2015 Ozone Standard Boundary Designations. On April 27, 2016, the MAG Regional Council took action to approve sending a letter to ADEQ requesting that the Maricopa ozone boundary not be expanded at this time, since the Queen Valley and Tonto National Monument monitors only slightly exceed the standard and there is a downward trend at the monitors. Monitor data from the 2016 ozone season should be evaluated first to determine if the monitors have met the standard or if it is necessary to revise the boundary recommendation.

On April 14, 2016, ADEQ conducted a stakeholder meeting and proposed an expansion of the Maricopa eight-hour ozone nonattainment area to include portions of Pinal County and Gila County. Based upon 2013-2015 monitor data, the Queen Valley monitor in Pinal County and the Tonto National Monument monitor in Gila County are at 0.071 parts per million compared to the 2015 ozone standard of 0.070 parts per million. The data for the Tonto monitor excludes an exceedance caused by a wildfire exceptional event in 2015. On February 29, 2016, MAG staff provided information to ADEQ showing a downward trend in the concentrations at both monitors from 2001-2015 (see attachment).

In accordance with the Clean Air Act, states are required to submit their area designation recommendations by October 1, 2016 to the Environmental Protection Agency (EPA) based upon 2013-2015 data. By October 1, 2017, EPA will finalize the designations based upon 2014-2016 data. For this reason, EPA encourages states to review and consider preliminary 2016 air quality data in their designation recommendations. This is stated on page 4 of the EPA memorandum, Area Designations for the 2015 Ozone National Ambient Air Quality Standards dated February 25, 2016.

If the Maricopa eight-hour ozone nonattainment area is expanded as ADEQ is proposing, there will be tighter controls on business and industry in the new area and transportation conformity requirements will apply. These requirements could have a negative impact on economic development in Pinal County.

Again, MAG is requesting that the Maricopa ozone boundary not be expanded at this time, since the Queen Valley and Tonto National Monument monitors only slightly exceed the standard and there is a downward trend at the monitors. Monitor data from the 2016 ozone season should be evaluated first to determine if the monitors have met the standard or if it is necessary to revise the boundary recommendation.

We look forward to working cooperatively with the Arizona Department of Environmental Quality in our continuing efforts to improve air quality. If you have any questions, please do not hesitate to contact Lindy Bauer or me at (602) 254-6300.

Sincerely,

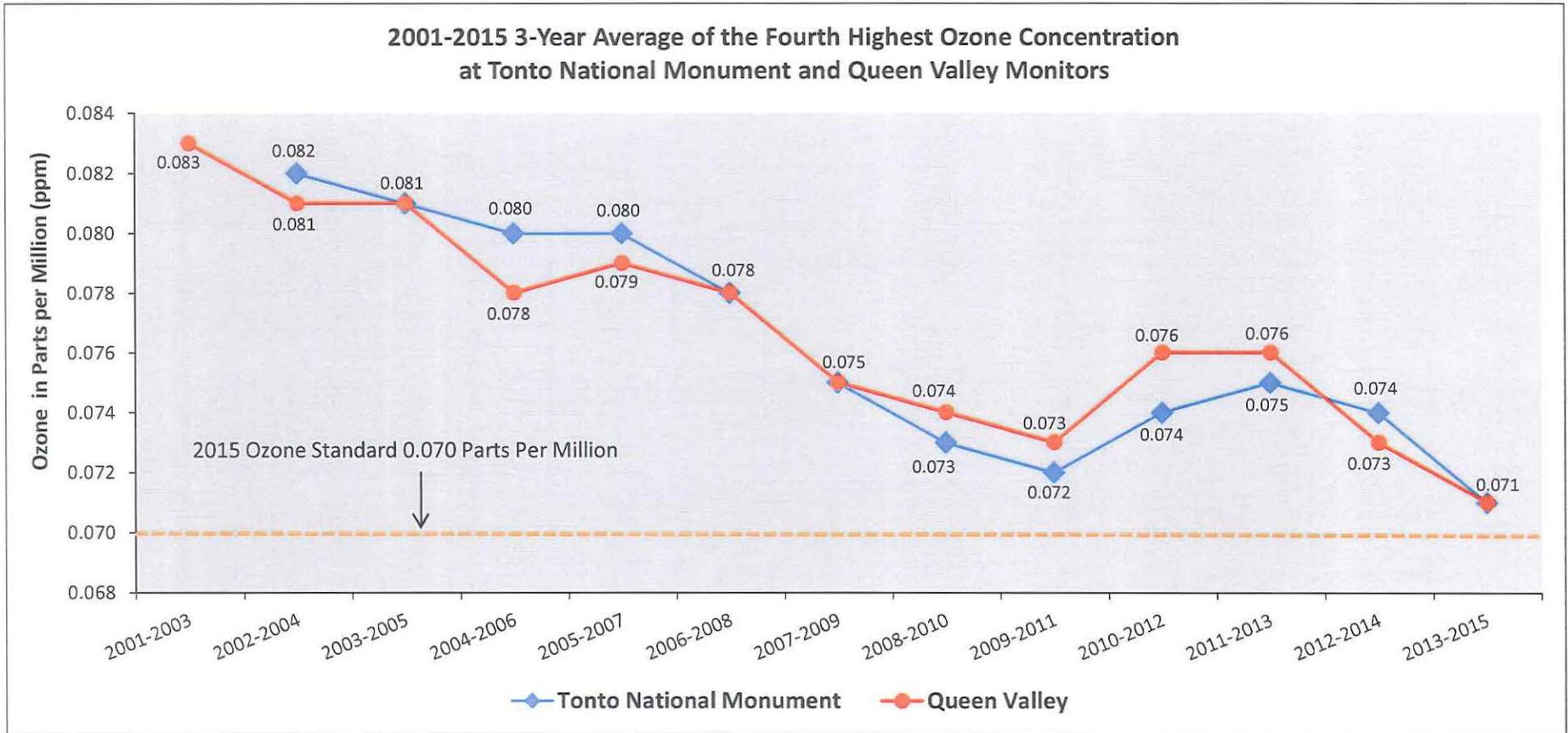
A handwritten signature in black ink, appearing to read "Dennis Smith". The signature is fluid and cursive, with the first name "Dennis" being more prominent and the last name "Smith" following in a similar style.

Dennis Smith  
Executive Director

cc: MAG Regional Council  
Greg Stanley, Pinal County  
Irene Higgs, Sun Corridor Metropolitan Planning Organization  
Ken Hall, Central Arizona Governments  
Timothy Franquist, Arizona Department of Environmental Quality

Monitor	2001-2015 FOURTH HIGHEST OZONE CONCENTRATIONS (parts per million)														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tonto National Monument	0.087	0.084	0.077	0.084	0.081	0.076	0.078	0.072	0.070	0.076	0.078	0.072	0.072	0.072	0.070
Queen Valley	0.079	0.083	0.087	0.073	0.084	0.079	0.076	0.080	0.070	0.072	0.078	0.078	0.073	0.068	0.074

Monitor	2001-2015 3-YEAR AVERAGE OF THE FOURTH HIGHEST OZONE CONCENTRATIONS (parts per million)												
	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014	2013-2015
Tonto National Monument	0.081	0.081	0.080	0.080	0.078	0.075	0.073	0.072	0.074	0.075	0.074	0.071	
Queen Valley	0.083	0.081	0.081	0.078	0.079	0.078	0.075	0.074	0.073	0.076	0.076	0.073	0.071



Data Source: U.S. EPA Air Data (<http://www3.epa.gov/airdata>) accessed on April 26, 2016.

Note: The June 20, 2015 exceedance of 0.079 ppm at the Tonto monitor is excluded from the data as an exceptional event caused by the Lake Fire in San Bernardino County, California