

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

Thursday, April 29, 2010
MAG Office
Phoenix, Arizona

MEMBERS ATTENDING

Doug Kukino, Glendale, Chairman
Gaye Knight, Phoenix, Vice Chair
Paul Lopez for Sue McDermott, Avondale
Elizabeth Biggins-Ramer, Buckeye
*Jim Weiss, Chandler
*Jamie McCullough, El Mirage
Kurt Sharp for Tami Ryall, Gilbert
Cato Esquivel, Goodyear
#Greg Edwards for Scott Bouchie, Mesa
#Maher Hazine for William Mattingly, City of Peoria
Larry Person, Scottsdale
#Antonio DeLaCruz, Surprise
Oddvar Tveit, Tempe
#Mark Hannah, Youngtown
#Ramona Simpson, Queen Creek
*Walter Bouchard, Citizen Representative
*Corey Woods, American Lung Association of Arizona
Grant Smedley, Salt River Project
Brian O'Donnell, Southwest Gas Corporation
*Mark Hajduk, Arizona Public Service Company
#Gina Grey, Western States Petroleum Association
*Randi Alcott, Valley Metro/RPTA
*Dave Berry, Arizona Motor Transport Association
Jeannette Fish, Maricopa County Farm Bureau
*Russell Bowers, Arizona Rock Products Association

*Greater Phoenix Chamber of Commerce
#Amanda McGennis, Associated General Contractors
*Spencer Kamps, Homebuilders Association of Central Arizona
#Mannie Carpenter, Valley Forward
Erin Taylor, University of Arizona Cooperative Extension
Joonwon Joo for Beverly Chenausky, Arizona Department of Transportation
Diane Arnst, Arizona Department of Environmental Quality
*Wienke Tax, Environmental Protection Agency
Jo Crumbaker, Maricopa County Air Quality Department
*Duane Yantorno, Arizona Department of Weights and Measures
*Ed Stillings, Federal Highway Administration
*Judi Nelson, Arizona State University
#Christopher Horan, Salt River Pima-Maricopa Indian Community

*Members neither present nor represented by proxy.
#Participated via telephone conference call.
+Participated via video conference call.

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments
Julie Hoffman, Maricopa Association of Governments
Randy Sedlacek, Maricopa Association of Governments
Cathy Arthur, Maricopa Association of Governments
Dean Giles, Maricopa Association of Governments
Patrisia Magallon, Maricopa Association of Governments
Adam Xia, Maricopa Association of Governments
Taejoo Shin, Maricopa Association of Governments
Bob Downing, Maricopa County Air Quality Department

Matt Poppen, Maricopa County Air Quality Department
Eric Raisanen, Maricopa County Air Quality Department
Michelle Wilson, City of Glendale
Scott DiBiase, Pinal County Air Quality
Steven Peplau, Arizona Department of Environmental Quality

1. Call to Order

A meeting of the MAG Air Quality Technical Advisory Committee was conducted on April 29, 2010. Doug Kukino, City of Glendale, Chair, called the meeting to order at approximately 1:34 p.m. Gina Grey, Western States Petroleum Association; Mark Hannah, Town of Youngtown; Amanda McGennis, Associated General Contractors; Ramona Simpson, Town of Queen Creek; Mannie Carpenter, Valley Forward; Antonio DeLaCruz, City of Surprise; Maher Hazine, City of Peoria; Chris Horan, Salt River Pima-Maricopa Indian Community; and Greg Edwards, City of Mesa, attended the meeting via telephone conference call.

2. Call to the Audience

Mr. Kukino stated that according to the MAG public comment process, members of the audience who wish to speak are requested to fill out comment cards, which are available on the tables adjacent to the doorways inside the meeting room. Citizens are asked not to exceed a three minute time period for their comments. Public comment is provided at the beginning of the meeting for nonagenda items and nonaction agenda items. He noted that no public comment cards had been received.

3. Approval of the March 25, 2010 Meeting Minutes

The Committee reviewed the minutes from the March 25, 2010 meeting. Larry Person, City of Scottsdale, moved and Gaye Knight, City of Phoenix, seconded and the motion to approve the March 25, 2010 meeting minutes carried unanimously.

4. Chair and Vice Chair Appointments

Lindy Bauer, MAG, discussed the MAG Committee Operating Policies and Procedures that were approved by the MAG Regional Council on July 22, 2009. According to the policies and procedures, officer positions for technical committees have one-year terms, with possible reappointment to serve up to one additional term by consent of the committee. She noted that the chair and vice chair appointments of the MAG Air Quality Technical Advisory Committee are due to expire on June 30, 2010. Ms. Bauer added that the Committee may choose to do one of the following: 1) recommend reappointment of the current chair and vice chair to serve a second one-year term, or 2) have a new chair and vice chair appointed by the Regional Council Executive Committee. She commented that if the Committee chose option two, letters of interest would be solicited and sent to the MAG Regional Council Chair by June 1, 2010. The MAG Regional Council Executive Committee would then make new appointments by June 21, 2010.

Brian O'Donnell, Southwest Gas Corporation, made a motion to recommend the reappointment of the current chair and vice chair to serve a second one-year term. Amanda McGennis, Associated General Contractors, seconded, and the motion to recommend reappointment of the current chair and vice chair to serve a second one-year term carried unanimously.

5. Draft 2008 PM-10 Periodic Emissions Inventory

Bob Downing, Maricopa County Air Quality Department, presented the Draft 2008 PM-10 Periodic Emissions Inventory. He stated that the County is required to prepare a complete, comprehensive inventory according to the Clean Air Act, the 2002 Consolidated Emissions Reporting Rule, and the 2009 Air Emissions Reporting Rule. Mr. Downing added that since the region is a nonattainment area, this inventory is a primary tool for tracking progress in meeting and demonstrating attainment with

the National Ambient Air Quality Standards (NAAQS). In addition, the inventory serves as a basis for modeling and motor vehicle emission budgets.

Mr. Downing highlighted a few of the requirements for preparing and reporting emissions inventories that were included in the 2009 Air Emissions Reporting Rule. He stated that comprehensive, county-level inventories every three years are now required nationwide. Mr. Downing noted that Maricopa County has been developing periodic inventories since it was designated a nonattainment area and additional requirements will continue for areas in nonattainment. He indicated that the list of pollutants that the County is required to report has also been extended to include PM-2.5 and ammonia (NH₃). In addition, Mr. Downing mentioned that the timetable for developing the inventory will be shortened from 17 months to 12 months by 2011. He noted that this may be of interest to those that are involved in preparing the data and those that use the information in the inventory. Mr. Downing also commented that the new rule provides counties and entities the option to report model input data as an alternative to County emissions estimates. He indicated that this may be problematic for large counties in western states.

Mr. Downing provided an overview of the Draft 2008 PM-10 Periodic Emissions Inventory. He stated that Maricopa County estimated emissions for the entire County and the PM-10 nonattainment area. He added that the inventory includes estimates of total annual emissions and typical day emissions for each source category. Mr. Downing indicated that the pollutants included in the inventory include PM-10, PM-2.5, nitrogen oxides (NO_x), sulfur dioxide (SO_x), and NH₃. He stated that a detailed written report has been published for a 30-day review and comment period. In addition, an electronic data set is being prepared and will be submitted to EPA. Mr. Downing noted that the County is also preparing an inventory for ozone. He indicated that the inventory will report on volatile organic compounds (VOC), NO_x, and carbon monoxide (CO) for the County and the ozone nonattainment area. The estimates will reflect annual totals and a typical ozone season day. Mr. Downing noted that the ozone inventory will also include a written report and electronic data sets.

Mr. Downing stated that the written report is a 150 page “cookbook” for each source category and has been posted to the County website. He added that the purpose of the report is to document the data sources, approaches, calculation methods, assumptions made when data was not available, and the citations of any documentation that was used. Mr. Downing indicated that posting the documentation for public review assists the County with determining if other data sources or approaches are available. He commented that the electronic data submission to EPA will become part of the National Emissions Inventory.

Mr. Downing provided a brief overview of the source categories addressed in the Maricopa County inventories which include: point, area (nonpoint), onroad mobile, nonroad mobile, and biogenic sources. He mentioned that biogenic sources do not play a role in the Draft 2008 PM-10 Periodic Emissions Inventory; however, biogenics can be a significant contributor in the ozone report, which will soon be prepared.

Mr. Downing presented a map of Maricopa County and the PM-10 nonattainment area which are the areas addressed in the inventory. He also provided an overview of the various types of methods used to estimate emissions from approximately 70 source categories. Mr. Downing indicated that surveys of 2008 activity for some of the source categories were conducted including over 1,000 large air quality permitted industrial facilities. He added that there was also a major effort at airports to collect detailed activity data, ground support equipment and auxiliary power unit. He noted that this

information was provided by MAG and assists Maricopa County in developing more accurate emission estimates. Mr. Downing indicated that surveys were also conducted for local fire departments, natural gas suppliers and locomotives.

Mr. Downing stated that the second major approach used by the County was collecting and analyzing data from other agencies. He added that the County received state-permitted portable source activity from the Arizona Department of Environmental Quality (ADEQ); state vehicle miles traveled data from the Arizona Department of Transportation (ADOT); land use, demographics, and economic data from MAG; earthmoving permit activity and permit information from the Maricopa County Air Quality Department; and data from others.

Mr. Downing stated that another approach for estimating emissions from source categories included specialized emission models. He stated that the Emission and Dispersion Modeling System (EDMS) is a Federal Aviation Administration model that provides emission estimates for aircraft activity, ground support equipment, and auxiliary power units. Mr. Downing indicated that the NONROAD model is an EPA model that calculates emissions from most of the nonroad equipment sectors such as industrial, agricultural, mining, and recreational. Mr. Downing mentioned that MOBILE 6.2 is a model used by MAG to calculate emissions from the onroad mobile sources. He commented that MAG also models biogenics using the MEGAN model. He noted that biogenics are a significant contributor to the ozone inventory.

Mr. Downing stated that Maricopa County may also use national and state emission estimates for sources such as publicly-owned treatment works and architectural coatings. He added that the County has also developed new approaches for windblown dust. Mr. Downing indicated that previous approaches for windblown dust that looked at a square city block or the entire western United States may not work when estimating emissions on a county-level scale. The results of the new approaches will be discussed later in the presentation.

Mr. Downing presented the Draft 2008 PM-10 Periodic Emissions Inventory pie chart. He stated that the source categories have been grouped into 20 categories. Mr. Downing noted that the cross-hatched areas of the pie chart represent the windblown dust emissions segregated by land use classes. Grant Smedley, Salt River Project, inquired about the impact of ammonia and PM-2.5 on the pie chart. Mr. Downing responded that the pie chart being presented is only for PM-10. He added that the modelers determine the best way to represent the atmospheric chemistry of how emissions from ammonia become part of particulates. Mr. Smedley inquired if there are pie charts in the report for the different pollutants. Mr. Downing responded no; however, the last page of the handout includes the PM-10 emissions inventory in a tabular format. The table includes the annual PM-10 emissions in the nonattainment area for each source category in comparison to 2005 annual emissions.

Mr. Downing summarized the key findings from the Draft 2008 PM-10 Periodic Emissions Inventory. He stated that the overall inventory for PM-10 is approximately ten percent less than 2005. Mr. Downing commented that the economy has contributed to decreases in emissions from construction and major stationary sources in comparison to the last inventory. He indicated that there have been increases in contributions from paved and unpaved roads and windblown dust in the past three years.

Jeannette Fish, Maricopa County Farm Bureau, asked if the increased contributions are based on percentages or volume. Mr. Downing replied that the increases are most likely calculated using both percentages and total emissions. He added that the County is presenting the data in various levels of analysis. Mr. Downing noted that the inventory results are presented in the pie chart and in the table.

In addition to the 2008 emissions inventory results, the data from the 2005 inventory is also presented for comparison.

Ms. Knight commented on some of the changes between the 2005 and 2008 inventories. She indicated that airport ground support equipment increased 75 percent, paved road fugitive dust emissions went up 25 percent, unpaved road fugitive dust increased approximately 40 percent, and agriculture decreased 19 percent. She inquired about the increases in emissions from paved and unpaved roads. Mr. Downing responded that the table was developed as a tool for the County to compare the emissions from 2005 and 2008.

Mr. Kukino asked about the methodology used for the inventory. He inquired if the 2005 and 2008 PM-10 Periodic Emission Inventories are comparable. Cathy Arthur, MAG, responded that different methodologies were used for the inventories. She stated that after the 2005 PM-10 Periodic Emissions Inventory was completed, the MAG 2007 Five Percent Plan for PM-10 was prepared. Ms. Arthur added that the methodologies for paved roads and unpaved roads were changed in the Five Percent Plan for PM-10. She indicated that the 2008 emissions inventory is consistent with the Five Percent Plan for PM-10 with the exception of the unpaved road inventory. Ms. Arthur added that MAG recently completed the 2009 unpaved road inventory for both public and private unpaved roads as well as alleys. She indicated that alleys had not been part of the unpaved road inventory in the past. Ms. Arthur commented that different methodologies were used to improve the emission estimates for the 2008 inventory.

Mr. O'Donnell referred to the windblown dust category in the table which indicates 7,300 tons of PM-10 in 2005 versus 18,000 tons of PM-10 in 2008. He inquired if the difference is due to a change in methodologies. Ms. Arthur replied that is correct and added that Matt Poppen, Maricopa County Air Quality Department, is the expert on the windblown dust emissions. She added that the methodologies are different and the 2008 PEI should reflect a better estimate.

Mr. Downing stated that Maricopa County developed the table as an internal tracking tool. He indicated that the County annotated the most striking changes between the 2005 and 2008 inventories. Mr. Downing added that some of the changes are due to the new reporting requirements. He mentioned that in past years, the County over reported to EPA. The EPA has only required that the top 50 major facilities be reported as individual points; however, since the County has had a robust permitting and data collection network, more facilities have been reported as point sources than were needed. Mr. Downing mentioned that under the new reporting requirements, Maricopa County has made adjustments. Therefore, some of the differences are due to individual source categories being reported under a different category.

Mr. Person commented that since there is higher percentage of emissions from unpaved road fugitive dust for 2008, it looks like more unpaved roads are being built. He inquired if this is a realistic way to read the data on the table. Mr. Person asked if the Committee should be comparing the 2005 and 2008 inventories since there were changes to the methodology. Mr. Downing responded that the summary data being presented was designed as a tool. He encouraged the Committee to review the 150 page report on the website if there are questions on the summary. Mr. Downing added that the report documents how the data was prepared. Ms. Bauer stated that additional notes could be included in the table to explain the changes to unpaved road and paved road fugitive dust emissions so people will not assume there have been large increases.

Mr. Kukino asked how the new inventory will be used. He stated that EPA has not acted on the MAG 2007 Five Percent Plan for PM-10, which is based on the 2005 inventory. He inquired if the new inventory will impact the Plan approval or planning process.

Ms. Knight indicated that perhaps notes could be added to sources with changes more than 25 percent. Mr. Downing responded that the feedback from the Committee is very useful. Mr. O'Donnell commented that a note should be added only to significant sources. Mannie Carpenter, Valley Forward, inquired if the summary was available online. Mr. Downing responded that the summary is currently not online. Mr. Kukino stated that MAG staff will provide the information to those attending the meeting by audio conference call.

Mr. Person commented that citizens may feel uncertain about the modeling since the estimated emissions vary so much. He referred to the differences in emissions shown in Figure ES-8 between the 2010 PM-10 emissions with committed control and contingency measures and the Draft 2008 PM-10 Periodic Emissions Inventory, which may be of concern to citizens. He inquired about the reliability of the models. Mr. Downing responded that he is just seeing Figure ES-8 for the first time; however, he is encouraged since the numbers are similar when the same methodologies are being used. Ms. Arthur indicated that Figure ES-8 was prepared by MAG. Mr. Kukino stated that Mr. Person raised a good point and this information is provided to many people.

Ms. Arthur stated that when the 2008 inventory is compared to what was submitted in the Five Percent Plan for PM-10, which is represented in Figure ES-8, the numbers are very closely aligned. She noted that the totals are within two percent. Ms. Arthur mentioned that the close comparison between the 2008 inventory and 2010 with control and contingency measures may indicate an accelerated reduction in emissions likely attributed to the economy. She added that the economy has had an impact on the construction emissions. Ms. Arthur stated that the blue areas in the pie chart represent the construction categories which show a decrease in emissions from 24 percent in the Five Percent Plan for PM-10 to 14 percent in the 2008 inventory. She stated that most of the remaining differences are represented in the windblown dust inventory, which is 25 percent of the total. Previously, windblown dust was seven percent. She indicated that we now have a better handle on how to estimate PM-10 emissions from windblown dust. Ms. Arthur noted that while there are big changes, generally it means improvements in the data or the techniques used to estimate emissions. She commented that windblown dust is an example of a tremendous change. Ms. Arthur indicated that the best methodology available at the time is used. She noted that the County had hired ENVIRON to conduct the modeling for windblown dust for the 2005 inventory; however, the answers were not reasonable.

Mr. Downing stated that the ENVIRON model worked well on a 15-state basis. However, when it was used for just Maricopa County, the data produced was not what they expected, it was counter intuitive. Ms. Arthur added that sometimes there can be challenges with scaling down large regional models. She indicated that Mr. Poppen has done a great deal of research on techniques that estimate windblown dust. Ms. Arthur noted that the windblown dust data in the 2008 inventory is based on local data, which is different from the Western Regional Air Partnership modeling.

Oddvar Tveit, City of Tempe, inquired about running the 2005 data through the model with the new methodologies to get a better comparison. He commented on the different outcomes due to changes in the methodology. Mr. Tveit discussed the sources and added that these types of inconsistencies may need to be explained in the report. He commented on adjusting the 2005 data and then presenting it

against the 2008 inventory. Ms. Arthur responded that the results would be more consistent if the same methodologies were used; however, there were also different conditions in 2008 versus 2005. For example, wildfires were down in 2008; therefore, the emissions from this source were lower. She noted that these conditions are uncontrollable. In addition, the number of days per year with windblown dust events change from year to year. Mr. Downing stated that since windblown dust is a significant category, the County had applied the new approach to the 2005 data and found that it would have been a closer comparison. He also commented on the changes in meteorology from 2005 to 2008. Ms. Arthur added that the calculations in the 2008 inventory were based on 366 days. Mr. Downing mentioned that there were also changes in land use between 2005 and 2008.

Ms. Bauer stated that EPA has changed the models several times over the years. She discussed the experience Ms. Arthur has had with the various EPA emission models and added that the latest version is the MOVES model. Ms. Bauer indicated that biogenics is a newer component that shows vegetation contributes to ozone formation. She commented that conditions are always changing. Ms. Bauer referred to the economy and the impact on construction emissions. She also mentioned the big change for the windblown dust category in the inventory.

Mr. Kukino commented on the decrease in PM-10 emissions from 2005 to 2008. He inquired about how this will impact the MAG 2007 Five Percent Plan for PM-10. Ms. Arthur responded that the decrease in emissions confirms that the Five Percent Plan for PM-10 is working. She indicated that the region was one year into the Plan and the inventory is showing reductions. She added that the 2008 inventory will be submitted to EPA; however, it is yet to be determined how the inventory will affect the Plan. Ms. Arthur noted that 2007 was used as the base year for determining the five percent per year reductions. She added that the inventory does not directly impact the Plan but confirms that the region is reducing PM-10. Mr. Downing added that the data in the tables represent annual emissions for the entire PM-10 nonattainment area. He noted that the table does not show why a particular monitor may have exceeded the standard. Ms. Arthur stated that the report is a regional inventory and does not provide activity information for each of the monitors.

Ms. Arthur indicated that the majority of the decreases in PM-10 emissions from construction are now being absorbed in the windblown dust category. Ms. Arthur also stated that the onroad mobile sources (exhaust/tire wear/brake wear, paved roads, unpaved roads) represented 41 percent of the total emissions in 2008 as well as in the Five Percent Plan for PM-10. She mentioned that it is encouraging from a modeling standpoint that the percent contribution has remained consistent. Ms. Arthur added that MAG will provide notes to Maricopa County to include in the table to further explain changes in emissions from 2005 to 2008.

Ms. Arthur addressed an earlier question by Mr. Person regarding unpaved roads. She indicated that the major difference between the Five Percent Plan for PM-10 and the new inventory is that it is now known which roads are private and which are public. Ms. Arthur mentioned that previously, assumptions were made about all unpaved roads growing over time; however, it is the private unpaved roads that are growing. She commented that there is now better information on the growth of unpaved roads. She noted that the lot splits are causing the growth; however, they are not growing as quickly as previously anticipated. Ms. Arthur indicated that the major difference now is that the region has better information on public versus private roads as well as the average daily traffic. She added that these things have changed the unpaved road inventory for the better.

Ms. Knight complimented those involved with preparing the information. She added that perhaps the explanations for some of the trends and changes in the 2008 inventory could be included in the report as a paragraph or bullet points to assist those reading the document. Ms. Arthur responded that they will include language to discuss the changes in the inventory.

Mr. Kukino inquired about the timeline for inventories on the other pollutants. Mr. Downing responded that the Draft 2008 PM-10 Periodic Emissions Inventory is out for a 30-day public review and comment period. He added that the comments will be accepted through the end of May 2010. A final report will be prepared in June. He indicated that similar documentation will begin to be prepared for ozone.

Ms. Fish stated that the inventory shows that emissions decreased by 11.6 percent from 2005 to 2008. She inquired if the region could receive credit in the Five Percent Plan for PM-10 for two years. Ms. Arthur responded that the base used for 2007 is much higher than the 2005 inventory. Therefore, the percent reductions are based on a different starting point. Ms. Arthur added that the region was also only one year into the Plan in 2008. She mentioned that construction emissions are down due to fewer acres, but also the rule effectiveness has increased from 51 to 83 percent. Ms. Arthur mentioned that credit can be taken in the Plan for the increase in rule effectiveness. She noted that the base in the Plan includes approximately 97,000 tons of PM-10 emissions and the 2008 inventory is about 75,000 tons.

Mr. Downing stated that the feedback has been very useful, especially for the two-page summary. He commented on using the summary as a tool for others. Ms. Arthur added that notes on the summary table could be used as bullet points in the inventory to document the changes.

6. Call for Future Agenda Items

Ms. Bauer commented that a presentation from the Salt River Pima-Maricopa Indian Community on their Air Quality Program was mentioned as a possible future agenda item at the last meeting. She stated that this item could potentially be included on the agenda for the next meeting. Chris Horan, Salt River Pima-Maricopa Indian Community, indicated that he would be willing to give a presentation.

Ms. Knight inquired about an update from Pinal County as a future agenda item. Ms. Fish inquired about a recent study in Pinal County. Diane Arnst, ADEQ, responded that the 2009 improvement was not included. She added that EPA will be providing feedback on the Governor's recommendation for the PM-10 boundary and designation in Pinal County. She indicated that once they hear back from EPA, there will be opportunity for the Governor to submit additional information if there is a disagreement. Ms. Arnst mentioned that the design value is based on three years of data and 2009 through 2011 would be the earliest. She noted that there were 40 exceedances in 2009.

Mr. Kukino announced that the next meeting of the Committee has been tentatively scheduled for Tuesday, May 25, 2010 at 1:30 p.m. With no further comments, the meeting was adjourned at 2:36 p.m.