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

Tuesday, November 29, 2011
MAG Office
Phoenix, Arizona

MEMBERS ATTENDING

Oddvar Tveit, Tempe, Chairman
Elizabeth Biggins-Ramer, Buckeye, Vice Chair
Kristen Sexton, Avondale
Jim Weiss, Chandler
Jamie McCullough, El Mirage
Kurt Sharp, Gilbert
Doug Kukino, Glendale
* Cato Esquivel, Goodyear
# Greg Edwards for Scott Bouchie, Mesa
William Mattingly, Peoria
Phil McNeely, Phoenix
* Tim Conner, Scottsdale
# Antonio DeLaCruz, Surprise
# Mark Hannah, Youngtown
Ramona Simpson, Queen Creek
* American Lung Association of Arizona
# Wendy Crites for Grant Smedley, Salt River Project
Brian O'Donnell, Southwest Gas Corporation
Mark Hajduk, Arizona Public Service Company
Susan Stephens for Gina Grey, Western States Petroleum Association
* Dawn M. Coomer, Valley Metro/RPTA
Dave Berry, Arizona Motor Transport Association
Jeannette Fish, Maricopa County Farm Bureau
Steve Trussell, Arizona Rock Products Association
Amy Bratt, 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
Diane Arnst, Arizona Department of Environmental Quality
*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
Stan Belone for 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
Dean Giles, Maricopa Association of Governments
Taejoo Shin, Maricopa Association of Governments
Matt Poppen, Maricopa Association of Governments
Julie Hoffman, Maricopa Association of Governments
Kara Johnson, Maricopa Association of Governments
Adam Xia, Maricopa Association of Governments
Feng Liu, Maricopa Association of Governments
Cathy Arthur, Maricopa Association of Governments
Randy Sedlacek, Maricopa Association of Governments
Mitch Wagner, Maricopa County Department of Transportation
Dan Catlin, Fort McDowell Indian Community
Scott DiBiase, Pinal County Air Quality
Matt Tsark, Strand Associates, Inc.
Frank Schinzel, Maricopa County Air Quality
Joe Gibbs, City of Phoenix
Syd Anderson, City of Phoenix
Michelle Wilson, City of Glendale
Shane Kiesow, City of Apache Junction
Bob Downing, Maricopa County Air Quality Department

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on November 29, 2011. Oddvar Tveit, City of Tempe, Chair, called the meeting to order at approximately 1:30 p.m. Jim Weiss, City of Chandler; Wendy Crites, Salt River Project; Jamie McCullough, City of El Mirage; Greg Edwards, City of Mesa; Mannie Carpenter, Valley Forward; Susan Stephens, Western States Petroleum Association; Mark Hannah, Town of Youngtown; and Antonio DeLaCruz, City of Surprise, attended the meeting via telephone conference call.

2. Call to the Audience

Mr. Tveit 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. Mr. Tveit noted that no public comment cards had been received.

3. Approval of the October 27, 2011 Meeting Minutes

The Committee reviewed the minutes from the October 27, 2011 meeting. William Mattingly, City of Peoria, moved and Doug Kukino, City of Glendale, seconded, and the motion to approve the October 27, 2011 meeting minutes carried unanimously.

4. Update on the MAG Five Percent Plan for PM-10 and Exceptional Events

Matt Poppen, Maricopa Association of Governments, provided an update on the Draft Attainment Demonstration for the MAG 2012 Five Percent Plan. Attainment is modeled in the year 2012 for both the Salt River Area and the PM-10 nonattainment area. The Salt River Area includes the West 43rd Avenue, Durango Avenue and South Phoenix monitors. Mr. Poppen stated that the Environmental Protection Agency (EPA) had expressed particular interest in single exceedances at the West 43rd Avenue monitor. Therefore, the West 43rd Avenue monitor is a focus in modeling attainment. However, attainment needs to be demonstrated regionally, throughout the PM-10 nonattainment area.

Mr. Poppen indicated that the 2012 MAG Five Percent Plan for PM-10 is different in that only high wind days are modeled as part of the attainment demonstration. Mr. Poppen added that stagnant exceedances are no longer a problem in the region and EPA agrees that the control measures in place have effectively addressed this issue. However, high wind events need to be modeled and are the focus in the 2012 plan.

Mr. Poppen discussed high wind days. He indicated that high wind days are separated into high and low wind hours. Both the high and low wind hours are modeled based on the appropriate criteria. The hours are categorized as a high or low wind hour by using the cut point of 12 miles per hour (mph) average wind speed, as identified in the windblown dust inventory. Mr. Poppen stated that high wind hours are modeled using a technique called distance-weighted rollback along hourly back trajectories.

Brian O'Donnell, Southwest Gas Corporation, inquired about the 12 mph cut point. Mr. Poppen replied that the draft EPA Exceptional Event Rule high wind guidance has suggested a wind speed threshold of 25 mph for exceptional events; however, previous work done in consultation with EPA

on the development of the windblown dust inventory establishes a 12 mph wind speed threshold for the creation of windblown dust.

Mr. Poppen stated that the MAG 2012 Five Percent Plan uses distance-weighted rollback modeling along hourly back trajectories to demonstrate attainment on high wind days. Therefore, there is no dispersion modeling in this plan. Using the distance-weighted rollback modeling, reductions in emissions equals reductions in concentrations. Mr. Poppen gave the example that when a 30 percent reduction in emissions is identified, a 30 percent reduction in concentrations at the monitor is assumed. He stated that back trajectories are developed from five minute wind speed data at the monitor. For example, if wind speed was 16 mph, a back trajectory is calculated by receding 16 miles in accordance with the wind direction. Mr. Poppen discussed that low wind hours are modeled with simple rollback within defined domains around the particular monitor being modeled.

Mr. Poppen presented an overview of the implemented measures from the MAG 2007 Five Percent Plan that the MAG 2012 Five Percent Plan is using for credit. These measures show that the region meets the five percent PM-10 reduction requirement and the contingency requirement. Mr. Poppen noted that the measures that contribute to the five percent reductions are the measures used for attainment modeling. The measures that are part of the contingency requirement are not used in attainment modeling. Likewise, Mr. Poppen added that measures used for the contingency requirement cannot be used as credit in attainment modeling according to the Clean Air Act. The measures used to demonstrate the five percent reduction in PM-10 include: rule effectiveness for Maricopa County Rules 310, 310.01, and 316 between the years 2007 and 2010; PM-10 certified street sweeping of freeways with the Arizona Department of Transportation (ADOT) contract dated February 20, 2010; PM-10 certified street sweepers purchased with Congestion Mitigation and Air Quality (CMAQ) Improvement funds between January 1, 2007 and December 31, 2009; road, alley, and shoulder paving/stabilization projects completed in 2008 to 2011; speed limit reductions implemented in 2008 to 2011; and rubberized asphalt overlays completed by ADOT. The new measure for the 2012 plan is the Dust Action General Permit and other provisions of HB 2208 which increases rule effectiveness for Rule 310.01 sources only.

Spencer Kamps, Homebuilders Association of Central Arizona, inquired why the dates of the measures used to calculate reductions vary. Mr. Poppen responded that the dates correlate to projects that have been implemented and MAG is able to verify their completion. Mr. Kamps asked if credit could be taken through 2011. Mr. Poppen replied that was correct. Mr. Kamps asked if no new street sweepers have been purchased with CMAQ funding since 2009. Cathy Arthur, Maricopa Association of Governments, responded that after 2010, the assumption is that street sweeping benefits increase at the rate of vehicle miles traveled (VMT). Therefore, credit is not being taken for additional sweepers purchased after 2010. She indicated that the main reason is that most of the sweepers purchased since 2010 are replacing older PM-10 certified street sweepers. Ms. Arthur added that additional credit is not being taken since credit has already been taken for those sweepers. She stated that credit beyond 2010 is not being taken for street sweeper purchases, but credit is being taken for increased VMT. Ms. Arthur noted that as VMT increases, sweeping benefit increases. She mentioned that credit for sweepers purchased in 2010 is not taken in 2010 because the benefits of a street sweeper purchased in one year are not credited until the subsequent year, i.e., after a full year of use. She indicated that these protocols are being followed in order to be as conservative as possible.

Mr. Poppen discussed attainment modeling. He stated that to begin modeling attainment a design day needs to be selected. For the MAG 2012 Five Percent Plan design days were selected from the year

2007 since this is considered the base year. Mr. Poppen explained that 2007 is considered the base year because this was the year before the measures were implemented. He indicated that there were 19 exceedances of the PM-10 standard in 2007 on 11 individual days. Mr. Poppen stated a major criteria used in selecting design days was to identify the days least likely to be high wind exceptional events. He noted that exceedances from the Buckeye monitor were not chosen as design days since this monitor lies outside the PM-10 nonattainment area. Likewise, Mr. Poppen stated that the Coyote Lakes monitor was a special purpose monitor that is no longer in operation and was also excluded.

Mr. Poppen stated that the dates in which to choose design dates consist of days with frontal system high winds. The date chosen for the Salt River Area was May 4, 2007- exceedance at the West 43rd Avenue monitor. The date selected for the PM-10 nonattainment area as a whole was June 6, 2007- exceedances at West 43rd Avenue and Higley monitors. Mr. Poppen indicated that these dates were the least likely to be categorized as exceptional events due to lower elevated wind speeds. Dates with higher wind speeds were not chosen as design days because they are more clearly linked with exceptional events. Mr. Poppen noted that only the West 43rd Avenue monitor is modeled for the May 4, 2007 date. He stated that seven monitors recorded PM-10 24-hour averages on June 6, 2007 and all were modeled. Mr. Poppen commented that there are not more monitors on June 6, 2007 that recorded 24-hour PM-10 averages since filter-based monitors operating on a one-in-six sampling schedule did not record values on June 6, 2007.

Mr. Poppen presented a table of the design days' wind speeds by hour, in which the low and high wind hours are presented. The high and low wind hours have differing modeling requirements. Mr. Poppen discussed a chart that graphs wind speed and PM-10 in relation to each other on May 4, 2007 at the West 43rd Avenue monitor. For this day the PM-10 24-hour average was 197.3 $\mu g/m^3$ with an hourly average as high as 600 $\mu g/m^3$. Mr. Poppen notes that most of the high hourly PM-10 concentrations are associated with higher wind speeds.

Mr. Poppen presented an illustration of the May 4, 2007 high and low wind domains. The high wind domains are based upon back trajectories developed from the recorded wind speeds at the monitor. Mr. Poppen noted that the black lines in the illustrations are hourly back trajectories that represent wind speed and direction during the hour of interest at the monitor. The yellow buffering around the back trajectories is the area in which windblown dust emission inventories for that hour are created. Mr. Poppen stated that the windblown dust emission inventory area constitutes a mile north and south of the back trajectories. The low wind hours only use emissions that are included in the low wind domain. Mr. Poppen noted that the low wind domain for the West 43rd Avenue monitor is the Salt River Area domain that has been used in previous PM-10 plans.

Mark Hajduk, Arizona Public Service Company, referenced an analysis of the area where temporary PM-10 monitors were placed. Mr. Hajduk asked if the data in that analysis reflects the back trajectory analysis and if it has any impact on the approval of the modeling attainment demonstration. Mr. Poppen responded that EPA is agreeable with how the back trajectory is developed. The back trajectory modeling uses five minute data from the monitor, which is what EPA prefers, as opposed to high split modeling. Mr. Poppen discussed that EPA guidelines for the low wind domain is that everything in that domain should have similar land uses and/or that the monitor is impacted by the same mix of sources. He stated that in terms of windblown dust, the direction of the wind is key to knowing where the high PM-10 concentrations emerged. Mr. Hajduk inquired about the temporary monitors. Mr. Poppen replied that the temporary monitoring data is used to develop distance weighting of the windblown dust inventory. He added that temporary monitors were placed due west

of the West 43rd Avenue monitor. One of these monitors was used to develop background values. Mr. Poppen stated that indeed the temporary monitors do inform the modeling in terms of how to weight emissions over distance.

Mr. O'Donnell inquired when the Salt River monitor was relocated to the West 43rd Avenue monitor location. Jo Crumbaker, Maricopa County Air Quality Department, responded that she did not have the date in which that monitor moved locations from the Salt River Service Center to West 43rd Avenue. However, she stated that there was not Salt River Service Center data available in 2007.

Mr. Poppen presented a table that displays how the high wind inventories are developed. Using the methodology in the 2008 Periodic Emissions Inventory on the calculation of windblown dust, the rule effectiveness rates serve as a surrogate for how much of the soil is disturbed. Mr. Poppen added that as rule effectiveness increases it is assumed that less of the soil is disturbed over time, which decreases PM-10 emissions. The table presented the un-weighted windblown dust emissions from the May 4, 2007 design day using both rule effectiveness rates from 2007 and then using rule effectiveness rates from 2012. Mr. Poppen noted that PM-10 sources further away from the monitor have less impact on the monitor. For the modeling, emissions need to be weighed by their distance from the monitor. Mr. Poppen explained that dividing the PM-10 emissions by the distance from the monitor results in the distance weighted emissions for 2007 and 2012. The difference in emissions between 2007 and 2012 is applied to the concentration. Mr. Poppen provided an example from the table that if the percent reduction of weighed emissions is 33.8 percent, between 2007 and 2012, then there would be a reduction of the PM-10 concentrations for that hour by 33.8 percent to help show attainment.

Mr. Poppen displayed a table for the May 4, 2007 low wind hours. He stated that modeling low wind hours are simpler. Mr. Poppen indicated that the low wind hour emissions for the Salt River low wind domain are calculated using the annual 2007 PM-10 nonattainment area emissions inventory and assigning it to the land uses in that area. This is repeated using the 2012 emissions inventory that has been developed. The difference between the 2007 and 2012 data produces the reductions achieved during low wind hours. The total percent reduction for the low wind hours of May 4, 2007 equals 34.3 percent which can then be applied to the low wind hours.

Mr. Kamps inquired if the parentheses on the May 4, 2007 low wind hours table indicate an increase in PM-10. Mr. Poppen replied that the parentheses do illustrate an increase of PM-10 (or a decrease in percent reduction) in areas of residential, commercial, and vacant land use. He mentioned that PM-10 has increased in the residential land use category due to increased population growth in which there are no new emission controls for that particular land use. The increases in PM-10 for the commercial land use is due to products of combustion, not fugitive dust.

Steve Trussell, Arizona Rock Products Association, asked what the changes are that have lead to the decrease in PM-10 with regard to transportation, industrial, and construction land uses. Mr. Poppen replied that the industrial category includes sources that have permits with Maricopa County. He discussed that transportation land uses mainly include emissions from cars. Mr. Poppen noted that contingency measures are not used for credit in the attainment modeling. The contingency measures include road paving projects and street sweeping. Mr. Poppen commented that if the measures used for contingency were included in demonstrating attainment, there would be a greater increase in reduction of PM-10 for transportation. He added that the contingency measures cannot be included to show emission reductions because those contingency emissions are above and beyond what is required for attainment modeling and the five percent reduction requirement. Mr. Poppen stated that

Rule 310 permits make up most of the PM-10 reductions for construction land use. He discussed that off highway vehicle travel, leaf blowers, and other miscellaneous sources like wildfires fall under the vacant/open land use category. Mr. Poppen noted that the reductions on this table are for low wind hours.

Mr. Kamps inquired where the concept of dragout fits into the table. Mr. Poppen responded that the plan has a simple approach to low wind hours since EPA agrees that the region is not having issues with low wind exceedances. Due to this EPA recognition, the emissions inventory is not as detailed as it was in the withdrawn 2007 Five Percent Plan for PM-10. Mr. Poppen noted that a stagnation violation of the PM-10 standard has not occurred since 2006. A simpler, straightforward emissions inventory and rollback modeling have been developed for the new MAG 2012 Five Percent Plan with regard to low wind reductions.

Mr. Kamps asked what changes equaled a 24.6 percent PM-10 reduction in industrial land use. Mr. Poppen replied that the reduction resulted from a mixture of measures and growth factors. He discussed that the measures that exist in this category coupled with growth factors of the economy at that time produced the PM-10 reduction. Mr. Poppen noted that rule effectiveness is included since, Rule 316, and Rule 310.01 are part of the industrial land use category.

Dave Berry, Arizona Motor Transport Association, inquired about the low wind and high wind domains. Mr. Poppen replied that the low wind domain is the immediate area around the monitor, as indicated by the orange box on the illustration. Mr. Berry asked what the 405 acres listed under the transportation land use includes. Mr. Poppen responded that the 405 acres constitutes major roadways in the area. Mr. Berry inquired if the emissions were a function of VMT in the area. Mr. Poppen responded that the annual emissions inventory is used and assigned to land uses. Using this methodology a tons per acre rate is calculated. Mr. Poppen explained that the tons per acre rate is multiplied by the acres that exist in the Salt River Area. Mr. Berry asked if this process is prescribed by EPA. Mr. Poppen replied that MAG staff has been working with EPA in the Five Percent Technical Committee meetings. He stated that EPA is very familiar and aided in the decision that the rollback approach and this conceptual model be used for low wind hour modeling. Mr. Poppen discussed that the simpler approach for low wind days uses the concept that reductions in emissions equals reductions in concentrations. Mr. Berry inquired if this methodology is used elsewhere. Mr. Poppen responded that rollback modeling is used frequently and the process was used in the previous 2007 PM-10 Plan for modeling some monitor data.

Mr. Poppen presented a table used for attainment demonstration of the May 4, 2007 design day. He noted that background concentration is included in the table. Background concentration data was taken from Arlington, a temporary monitor, that is approximately ten miles west of the PM-10 nonattainment area border. Mr. Poppen stated that in terms of modeling, the background concentrations are assumed to never decrease. He commented that background concentrations need to be subtracted before reductions can be applied for both low and high wind hours. Once each hour has gone through the appropriate calculations the 24-hour average is calculated. Mr. Poppen indicated that the 24-hour average for May 4, 2007 was 197.3 $\mu g/m^3$ and the 24-hour average for 2012 after rollback modeling was 134.1 $\mu g/m^3$. The 2012 PM-10 24-hour average of 134.1 $\mu g/m^3$ is well below the standard of 150 $\mu g/m^3$. Mr. Poppen noted that attainment is demonstrated in 2012 for this monitor using this methodology.

Mr. Kamps asked for a clarification on the calculation of the 24-hour PM-10 average. Mr. Poppen replied that each hour has a 2007 concentration in which the background concentration is subtracted. He stated that the reductions are then applied to that number. After that calculation is completed the background concentration is added back in and the 2012 controlled PM-10 concentration is averaged to arrive at the 24-hour average. Mr. Kamps inquired why the background numbers do not change when the wind speed is a fluctuating factor. Mr. Poppen responded that the MAG consultant, Sierra Research, had calculated the background calculations that were used in the 2012 plan. He indicated that the table displays the low wind background concentration of 14.9 $\mu g/m^3$ and the high wind background concentration of 21.9 $\mu g/m^3$ which is based on the average concentrations during low or high wind hours.

Mr. Kamps inquired why an average is used for background concentration as opposed to the actual wind speed. Mr. Poppen replied that averages are used for background concentrations to be conservative in the modeling. He discussed that average background concentrations only have issues when wind speeds increase drastically because the higher the wind speed, more sources become factors. When the wind speeds are extremely elevated and more sources are involved it becomes difficult to discern anthropogenic and nonanthropogenic sources. Another approach that was used in the MAG 2007 Plan was to look at values from a very remote site. However, Mr. Poppen stated that the values from the remote site were similar to the averages at the monitor west of the nonattainment area. He noted that the modeling is conservative in that there is an acknowledgment that there will always be an approximate minimum of 20 $\mu g/m^3$ concentration during high wind hours. Mr. Poppen stated that this is a conservative approach and the methodology was chosen with EPA approvability in mind.

Mr. Kamps asked if an increase to background would be more conservative. Mr. Poppen replied that with an increase of background concentration, the appearance of exceptional event days is more likely. He stated that to be consistent in the modeling, the design days are considered not to be exceptional events. By modeling these days it is assumed anthropogenic sources have caused the exceedances. An increase in background concentration would possibly place these days into the exceptional events category. Mr. Poppen stated that the Arizona Department of Environmental Quality (ADEQ) has said that the exceedances of the PM-10 standard in 2008, 2009, and 2010 are due to exceptional events and attainment was achieved in 2010. However, he stated that EPA has rejected four exceedances in 2008. In order to move forward with the MAG Five Percent Plan, the plan needs to assume the modeled days are not exceptional events.

Mr. O'Donnell referred to the May 4, 2007 high wind hours table and inquired about the distance of emissions from the monitor. Mr. Poppen responded that the hourly back trajectories are as long as the wind speed. He stated that if an emission source is 20 miles away, it cannot have the same weight as a source only a mile away. This is why the emissions from the source are divided by however many feet the source is from the monitor. Mr. Poppen gave the example if emissions are 20 miles away one would divide by 20, which is the distance. He stated that in this modeling exercise, feet are used as the unit of measurement.

Mr. Poppen presented graphs for the West 43rd Avenue and Higley monitors, which exceeded on the June 6, 2007 design day. He mentioned that modeling is being done for seven monitors that recorded 24-hour PM-10 concentrations on June 6, 2007. Mr. Poppen noted that there are no back trajectories for the State Super Site monitor due to winds that did not exceed 12 mph. This monitor is modeled

only using the low wind domain. Mr. Poppen indicated that there are three low wind domains that are being modeled on this day.

Mr. Poppen presented a table displaying the June 6, 2007 West 43rd Avenue monitor high wind hour weighted emission reduction, which totaled 34.8 percent. He also presented that the low wind hours totaled an emission percent reduction of 34.3 percent. Utilizing these reductions, an exceedance value of 225.7 $\mu g/m^3$ on June 6, 2007 is calculated to have a concentration value of 153.8 $\mu g/m^3$ in 2012 after rollback modeling. Mr. Poppen noted that the 153.8 $\mu g/m^3$ value meets the standard since it is below 155 $\mu g/m^3$. He stated that June 6, 2007 was considered a max concentration day. Despite this design day being considered a max concentration day, modeling was able to demonstrate attainment.

Mr. Kamps inquired about the axis of the graph for the June 6, 2007 Higley monitor exceedance. Mr. Poppen responded that the right axis displays wind speed and the left axis displays PM-10 concentrations. He explained that both axis are labeled to allow both factors of wind speed and PM-10 concentrations to be displayed simultaneously. Mr. Poppen noted that the draft Attainment Demonstration for the MAG 2012 Five Percent Plan presentation is very technical, and the purpose of this presentation was to provide a transparent overview of the modeling with the Committee.

Mr. Poppen presented June 6, 2007 design day high wind hours for the Higley monitor. He did note that less benefit is reaped at the Higley monitor during high wind hours due to less sources of windblown dust. Conversely, the Higley monitor low wind hours demonstrate increased percent emission reduction. Mr. Poppen noted that a greater benefit for low wind reduction is due to a concentration of construction activity in 2007 around the monitor. He indicated that the 24-hour average PM-10 concentration for June 6, 2007 was 181.1 $\mu g/m^3$ and the 24-hour average for 2012 was 127.5 $\mu g/m^3$. The 2012 PM-10 24-hour average of 127.5 $\mu g/m^3$ is well below the standard of 150 $\mu g/m^3$. Therefore, attainment is demonstrated in 2012 at the Higley monitor.

Mr. Poppen stated that there were five other monitoring sites that were part of the attainment demonstration for June 6, 2007. The other active monitoring sites on this design day did not exceed, but were still included in the nonattainment rollback modeling and are part of the plan. Mr. Poppen discussed that when the rollback modeling was applied to the 24-hour average PM-10 concentrations measured in micrograms per cubic meter at the other sites, the results were as follows: Central Phoenix emissions reduced from 107.0 to 81.7; Durango emissions reduced from 133.7 to 94.6; Greenwood emissions reduced from 121.7 to 94.0; State Super Site emissions reduced from 80.6 to 64.8; and West Phoenix emissions reduced from 108.8 to 85.7.

Mr. Poppen summarized that attainment in 2012 is modeled for the two high wind design days of May 4, 2007, Salt River Area only, and June 6, 2007 which encompasses the entire PM-10 nonattainment area. He displayed the attainment modeling results of the 24-hour average PM-10 concentrations for 2007 and the controlled values in 2012, which demonstrates attainment at the monitors in 2012.

Mr. Poppen commented that rollback modeling assumes reductions in emissions equals reductions in concentrations at the monitor. He indicated that the control measures put in place in 2008, 2009, and 2010 have indeed been effective at reducing emissions. Mr. Poppen presented a table that displays the annual average PM-10 concentrations by monitor for years 2007 through 2010. The monitors display an average of 44 $\mu g/m^3$ for the year 2007 and an average of 27 $\mu g/m^3$ for 2010 showing a major decrease in annual PM-10 concentrations. Mr. Poppen also presented a graph of the same data. The graph illustrates that PM-10 concentrations have decreased from 2007 to 2010.

Mr. Berry inquired what would occur if the winds exceeded what is currently modeled. Mr. Poppen stated that when originally reviewing the data from 2007, the high wind exceedance days were considered to be exceptional events and attainment would thus have been met in 2010. However, EPA proposed that the region had not reached attainment in 2010. Mr. Poppen noted that two exceedance days were then chosen to be modeled on the basis that these two days were the least likely to be considered exceptional events.

Mr. Berry asked if the wind speeds that were modeled for these days would become the threshold for the category of exceptional events. Mr. Poppen stated that the new plan needed design days in which to model attainment. He stated that ADEQ had originally designated May 4, 2007 and June 6, 2007 as exceptional events; however, EPA has not agreed with four exceptional events in 2008 that would have resulted in attainment in the region. These days were chosen in order to move forward with a new plan.

Mr. Berry inquired if the correlation between PM-10 concentration and wind speed was a linear relationship. Mr. Poppen replied that the relationship between the PM-10 concentrations and wind speed is not linear and was better reflected by a power relationship.

Mr. Trussell asked if the reductions for the design day low wind hours were averages since they were the same. Mr. Poppen responded that the tons per acre that is applied is the same for the low wind domains since they are all based on the annual PM-10 nonattainment area inventory. However, Mr. Poppen noted that a difference comes into play for the total area because within a low wind area there are different distributions of sources. He gave the example that the Salt River Area had a low wind reduction of 34.3 percent, but the Higley area had a reduction of 38.5 percent due to differing sources of the two areas. The Higley domain saw a greater reduction because it contained more construction land use than the Salt River Area.

Mr. Kamps inquired how the acres are remaining constant for the land use calculations. Mr. Poppen replied that the acres remain constant. He stated that the 2007 inventory is divided by the 2007 land uses to get the tons per acre calculation and the same is done for 2012. He noted that 2012 emissions are less due to increased rule effectiveness and growth factors; however, the acreage is held constant. Mr. Kamps asked how growth factor is included. Mr. Poppen responded that growth is a factor with regard to population, VMT, and employment, but not in land use acreage. If the acreage were to change, development of the inventories would need to change as well.

Mr. Kamps asked why attainment is reached at the West 43rd Avenue monitor on June 6, 2007 when the standard is 150 $\mu g/m^3$, but the attainment demonstration number is 153.8 $\mu g/m^3$. Mr. Poppen responded that indeed the standard is 150 $\mu g/m^3$; however, the concentration can be up to 155 $\mu g/m^3$ since the number is rounded to the nearest ten. As long as a number is below 155 $\mu g/m^3$, the standard is met.

Mr. Kamps commented that the bulk of emission reductions is increased rule effectiveness for Rules 310, 310.01, and 316. He added that attainment is tight at the West 43rd Avenue monitor and asked if other controls are needed. Mr. Kamps noted that the rules were in place in 2008 and the region is still violating. He inquired if additional control measures will be required with respect to rules 310, 310.01, and 316. Mr. Poppen replied that the attainment demonstration exhibits that attainment can be met in 2012 based on the current measures in place.

Lindy Bauer, Maricopa Association of Governments, stated that this information is being provided in order to keep the process transparent. She thanked the Committee for their patience with such a technical presentation.

Ms. Bauer updated the Committee on the 2011 PM-10 exceedances. To date, there have been 102 exceedances across the monitoring network, 101 of which are due to exceptional events. She noted that ADEQ is preparing the documentation for the 2011 exceptional events with assistance from Maricopa County and MAG staff. Ms. Bauer stated that the first group of exceptional events documentation for July 2, 2011 through July 8, 2011 was submitted to EPA for an informal review at the end of October. She mentioned that ADEQ was going to start documenting the exceptional events from 2009 in order to demonstrate three years of clean data; however, the numerous exceptional events of 2011 caused ADEQ to change course. Ms. Bauer indicated that once the 2011 exceptional events documentation is submitted, the 2009 exceptional events documentation will be completed.

Ms. Bauer discussed that the San Joaquin Valley Unified Air Pollution Control District estimates that it takes approximately 453 staff hours to document one high wind exceptional event. She noted that the region has had 21 days of exceptional events in 2011. She added that 2010 was a clean year. However, considering the tremendous workload for the exceptional events documentation. Ms. Bauer stated that MAG staff has been working with legal counsel on legislative remedies. She stated that draft legislation has been prepared that is designed to streamline the exceptional events process. Ms. Bauer indicated that the legislation is attempting to make the process more reasonable for all parties involved, which include EPA, the State, the Tribes and local governments. She noted that EPA has a heavy workload as well in reviewing the documentation once it is submitted. Ms. Bauer added that the efforts by EPA to agree to informally review and provide comments on the July 2, 2011 through July 8, 2011 documentation are appreciated. She discussed that the overriding concept of the draft legislation is that perhaps the states are in the best position to make the exceptional event determination, after consultation with EPA. The EPA would still be heavily involved in the process; however, the decision would be returned to the State and Tribal level.

Ms. Bauer stated that under the Clean Air Act there are some exclusions for exceptional events. Some of these exclusions include lack of precipitation and high temperatures. Ms. Bauer noted that many bills that are passed have definitions, but not exclusions. She referred to the time when the region experienced over 100 days of extended drought in 2005-2006. Ms. Bauer also stated that the draft legislation defines high wind due to a lack of definition in the EPA Exceptional Events Rule. EPA has acknowledged that their Exceptional Events Rule is flawed, so the legislation is designed to fix these flaws. Ms. Bauer noted that the draft legislation is in the beginning phases and no action has been taken. She added that the draft legislation has been provided to the MAG Regional Council Executive Committee. Mayor Hallman, Chair of the MAG Regional Council, sent a letter to EPA on November 22, 2011 communicating this information in hopes of EPA finding the legislation productive as well. A copy of the draft legislation was provided in the Committee agenda packet.

Ms. Bauer mentioned that the region has entered into a time of year where the opportunity for stagnation exceedances increases. She commented that Amanda McGennis, Associated General Contractors, had previously mentioned the benefits of using a tack coat in road work. The tack coat can help keep dust and PM-10 levels down. Ms. Bauer added that this topic was discussed at the MAG Management Committee meeting in November 2010. She introduced Syd Anderson, City of Phoenix Transportation and Street Department, to discuss the tack coat approach.

Mr. Anderson presented information regarding the overlay program and the processes that the City of Phoenix is looking into to minimize dust during road work. In the past, after a road was milled and before it was overlaid the specifications for dust proofing were generic. Mr. Anderson stated that a contractor was only required to take minimal dust minimization precautions such as additional watering. He indicated that after the City obtained stimulus funds, the City was required to develop an overlay program within a short period of time. Due to the short time frame Phoenix was unable to crack seal the streets six months to a year ahead of schedule, when it was usually completed. Therefore, a full face milling, from curb to curb, was done before the streets could be overlaid. He noted that the City also created a High Wind Advisory Task Force around the same time. This task force required various departments to assemble prospective programs to minimize dust impact on high wind advisory days.

Mr. Anderson stated that due to these events, the Street Transportation Department at the City of Phoenix researched the application of a tack coat after a street is milled. Previously, by conducting a full face milling, the City milled down approximately one inch. Typically a surface course on a street is one and one-half inches before another material is reached. Therefore, there would only be about one-half inch remaining on the street. Mr. Anderson indicated that the material would break down and become airborne from vehicles driving on it. He indicated that watering the one-half inch milled road did not work because it required constant watering to keep the dust down. Mr. Anderson stated that this is when the City started using tack coat to manage dust. He added that tack coat was already a bid item in the project and is used between the layers of asphalt. Mr. Anderson noted that initially Phoenix decided to go with half the amount after a street was milled. The tack coat was applied to lock in any particles that might be disturbed when vehicles drive over it. Mr. Anderson stated that the other half of the tack coat was used after the top layer of overlay was complete. He discussed that this method worked well for the City of Phoenix and there was no additional money needed by the contractor. Mr. Anderson mentioned that with the reduction in stimulus funds, the City has returned to crack sealing roads approximately six months ahead of time. Phoenix now utilizes edge milling which consists of milling only the curb lane, approximately 12 feet from the curb. Mr. Anderson stated that in edge milling, the mill tapers from one inch to zero which does not create the dust problems that resulted from milling the whole street. He discussed that a tack coat will continue to be used in the curb lane to reduce dust.

Mr. Anderson also noted that the City is looking to establish scenarios where contractors perform other necessary tasks that do not involve dust creation on high wind advisory days given enough lead time with the project. The City of Phoenix is also looking to make sure contractors are better informed on dust prevention in the pre-project and project specification phases. Mr. Anderson stated that he is a member of the MAG Standard Specifications and Details Committee in which he hopes to bring up some of these issues. He mentioned that discussion with the MAG Standard Specifications and Details Committee could bring about a regional specification to assist in preventing dust. Mr. Anderson stated that he would keep the Committee informed.

5. Update on the Supplemental Revision for the Eight-Hour Ozone Maintenance Plan

Ms. Bauer presented an update on the supplemental revision for the MAG Eight-Hour Ozone Maintenance Plan. She stated that EPA had requested supplemental modeling for interim years for the Eight-Hour Ozone Maintenance Plan that had already been submitted to EPA. The plan

demonstrated maintenance for the 1997 eight-hour ozone standard of 0.08 parts per million for 2025. There have been no violations of the 0.08 standard since 2004. Ms. Bauer stated that EPA has reinstated the 0.075 parts per million standard. On November 3, 2011, she stated that an email was received from EPA stating that the new ozone standard requires a fresh look at ozone and advised against investing any more time and energy into revising the maintenance plan at this time. Ms. Bauer added that EPA will be scheduling a conference call to discuss the topic in the future.

Mr. Hajduk mentioned a lawsuit against EPA for not ruling on the State Implementation Plan (SIP). He asked if this points to the direction of EPA approving the SIP. Ms. Bauer replied that EPA may have entered into a consent decree with the parties of the lawsuit.

6. Call for Future Agenda Items

Mr. Tveit requested suggestions for future agenda items. He noted that he is interested in hearing an update on the draft legislation for exceptional events. The next Committee meeting has been tentatively scheduled for January 26, 2012 at 1:30 p.m. With no further comments, the meeting was adjourned at 2:49 p.m.