

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY January 28, 2014
10:00 a.m. - 12:00 noon
East-West Gateway Board Room

- I. Call to Order**
 - Michael Coulson, Chair, East-West Gateway Council of Governments
 - A. Minutes of October 29, 2013 Meeting

- II. OneSTL Next Steps**
 - David Wilson, East-West Gateway Council of Governments

- III. Update on Lake Michigan Air Directors Consortium (LADCO) Activities**
 - Rob Kaleel, Lake Michigan Air Directors Consortium

- IV. Revised Maintenance Plan and Redesignation Request for 1997 Eight-Hour Ozone Standard**
 - Joe Winkelmann, Missouri Department of Natural Resources

- V. 2010 One-Hour Sulfur Dioxide National Ambient Air Quality Standard Designation and State Implementation Plan Requirements**
 - Bob Randolph, Missouri Department of Natural Resources

- VI. American Fuel Group Report**
 - St. Louis Regional Clean Cities Program

- VII. Update Activities of the States**
 - Illinois Environmental Protection Agency
 - Missouri Department of Natural Resources

- VIII. Other Business**

- IX. Adjournment**

*Please note that this meeting will serve as a part of the Inter-Agency Consultation Process as detailed in the Missouri Transportation Conformity SIP.

MINUTES
AIR QUALITY ADVISORY COMMITTEE
Tuesday, October 29, 2013
East-West Gateway Board Room

Members Present:

Michael Coulson, Chair, East-West Gateway Council of Governments
Joe Winkelmann - Missouri Department of Natural Resources
Mike Henderson - Missouri Department of Transportation
Mike Zlatic - St. Louis County Health Department
Betsy Tracy - Federal Highway Administration, IL
David Bloomberg - Illinois Environmental Protection Agency
Jack Fishman - St. Louis University
Brad McMahon - Federal Highway Administration, MO
Joe Gray - Illinois Department of Transportation, District 8
Ryan Tilley - St. Charles County Health Department

Others Present:

Ken Anderson - AMEREN
Mike Rogers - Illinois Environmental Protection Agency
Amy Funk - Metro East Community Air Project
Sara Chappau - Illinois Department of Transportation, District 8
Pamela Brooks - Illinois Environmental Protection Agency
Amy Bhesania - U.S. Environmental Protection Agency Region 7 (telephone)
Lachala Kemp - U.S. Environmental Protection Agency Region 7 (telephone)
Mark Leath - Missouri Department of Natural Resources (telephone)

Staff:

David Wilson Carol Lawrence

- I. Call to Order
 - Michael Coulson, Chair, East-West Gateway Council of Governments

The meeting of the Air Quality Advisory Committee (AQAC) was called to order by Chair Michael Coulson, East-West Gateway Council of Governments (EWGCOG). The minutes of the September 24, 2013 AQAC meeting were approved as circulated.

- II. St. Louis University Ozonesonde Launch Project: A Program in Support of NASA's SEACIONS and SEAC⁴RS Field Campaigns
 - Jack Fishman, Ph.D., St. Louis University

This summer NASA conducted a Studies of Emission and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys (SEAC⁴RS) project in the central U.S. Information from daily flights of NASA aircraft equipped with sophisticated data collection equipment will be

coordinated with data obtained from passes of six NASA satellites to achieve this mission's science objectives. Data from the aircrafts' equipment will be used to validate satellite measurements and to develop a synoptic picture of what was going on in the atmosphere.

Coordinated with the SEAC⁴Rs project was the NASA Deriving Information on Surface Conditions from Column and Vertically Resolved Observations Relevant to Air Quality (DISCOVER-AQ) project. This project was focused on air quality in and around Houston. NASA aircraft with data collection equipment and satellites were also used. The objective of the project was to improve the interpretation of satellite observations to diagnose near-surface conditions relating to air quality.

To support both these projects, the Souther American Consortium for Intensive Ozonesonde Network Study (SEACIONS) program was set up in order to develop a synoptic 3-D picture of what the atmosphere looked like and ozone levels on flight days. An ozonesonde is a weather balloon equipped with a three to four pound instrument package to measure temperature, humidity, air pressure and ozone levels in the atmosphere plus a radio transponder. Information is transmitted in real time during the balloon's ascent and descent. St. Louis University (SLU) was one of seven sites in the central and southern U.S. involved in this effort. A helium-filled balloon could travel up to 100,000 to 120,000 feet before bursting. The aim is to understand what the satellite sees in coordination with what is observed at the surface and improve understanding of ozone pollution. Between August 8 and September 23, SLU students successfully launched every balloon/instrument packages as scheduled. A total of 31 ozonesondes were launched with just three failures due to technical issues with the instruments. Sixteen packages were found and the equipment can be reused. Data from these measurements will become part of these SEACIONS/SEAC⁴RS science study. Findings should be available in Spring 2014. The St. Louis portion of this effort was featured on two local television stations and this story was carried nationally on National Public Radio and internationally through the Voice of America.

As an example of data collected, preliminary calculations of data from the August 30 ozonesonde indicate there was an ozone plume (135 ppb) at approximately 30,000 feet. Modeling suggested that the origin of the plume could have been from fires in Yellowstone National Park and California. An ozone plume found lower in the atmosphere appears to have a different origin. Further analysis and interpretation of the data collected is needed.

III. Illinois Air Quality Planning Activities and Air Quality Issues of Interest - David Bloomberg, Illinois Environmental Protection Agency

Mr. Bloomberg is the Manager of the Air Quality Planning Section in the Bureau of Air at the Illinois Environmental Protection Agency (Illinois EPA). The Regulatory Unit (Jackie Sims, Manager) researches and writes rules and tracks U.S. Environmental Protection Agency (USEPA) activities. The Modeling Unit (Jeff Sprague, Manager) is responsible for modeling activities and is involved in State Implementation Plan (SIP) development and non-attainment area boundary determinations. The

Inventory Unit (David “Buzz” Asselmeier, Manager) prepares annual Emissions Reports, conducts emissions inventories and assembles information used by other units and sections.

Both the Chicago area (six counties) and the Metro East (three counties) are non-attainment for the 2008 eight-hour ozone standard. The Metro East and Baldwin Township are non-attainment for the 1997 annual fine particulate matter (PM_{2.5}) standard. Based on 2007-2012 monitoring data and USEPA approval of revision to the Illinois PM_{2.5} SIP, the Chicago area (six counties plus three township) has been redesignated to attainment of the 1997 PM_{2.5} standard. The redesignation was published in the October 2, 2013 Federal Register.

Three townships around Pekin and three townships around Lemont in northeast Illinois have been designated as non-attainment for the sulfur dioxide (SO₂) standard. For both non-attainment areas Illinois EPA has identified about 18 sources in or near these areas which contribute to the problem not just a single source. Illinois EPA performed extensive modeling to identify all “culpable” sources of non-attainment within or outside of the two non-attainment areas. Discussions have begun with these sources. Originally USEPA had proposed that a state perform modeling state-wide to delineate SO₂ non-attainment areas. After the states expressed their concerns, USEPA decided to go with a phased approach. In Phase 1 non-attainment areas are based on monitored data and in Phase 2 non-attainment areas will be determined by either monitoring and/or modeling. USEPA has released draft guidance informing the states that modeling is the default but monitoring can be an option. This guidance is still to be finalized. It is the position of Illinois EPA that if companies want to have SO₂ monitors, the companies will be paying for them. Illinois can not afford them. USEPA is being sued for the phased approach to designation. USEPA is to make designations for modeled areas in December 2017 and for monitored areas in December 2020. Attainment dates will be five years after designations. Illinois EPA will propose a statewide rule for sulfur content in fuel oil. Rules covering specific sources/units impacting the non-attainment areas will also be proposed.

The lead non-attainment area in the Chicago area consists of a few blocks around one specific facility. When the Granite City lead non-attainment area (two townships) was established, there was uncertainty about what sources were responsible. It has since been determined that Mayco Industries is causing the violation there. Illinois EPA will soon be proposing lead rules applying to these specific non-attainment areas and requiring emissions controls on the two specific sources. These proposed rules are at the Governor’s office for approval and then will be submitted to the Illinois Pollution Control Board (IPCB).

On October 23 Illinois EPA held an outreach meeting in Chicago on recommended 2012 annual PM_{2.5} standard non-attainment area designations. There is a meeting in Collinsville this afternoon. Recommendations are due at USEPA in December 2013. Illinois is going to have prepare a rule on startup, shutdown and malfunction provisions at facilities. The Illinois rule will address startup and shutdown provisions only. USEPA has not finalized their requirements for this type of rule.

USEPA is holding a listening session in each USEPA region to obtain feedback on greenhouse gas requirements for power plants. The Cross State Air Pollution Rule (CSAPR) is to be heard at the U.S. Supreme Court in December. Whether CSAPR or some other form of transport rule, USEPA

will have to do something. Anticipate that a future transport rule will only impact larger sources. In Illinois many large sources have already been controlled or have committed to being controlled under the Multi-Pollutant/Combined Pollutant standards regulated under the state mercury rule.

IV. Recommended Annual PM_{2.5} Non-Attainment Area Designations in Illinois
- Pamela Brooks, Illinois Environmental Protection Agency

Madison, Monroe and St. Clair Counties and Baldwin Township are in non-attainment of the 1997 annual PM_{2.5} standard (15 micrograms per cubic meter or ug/m³). Earlier this month, the Chicago area was designated as being in attainment for this standard.

On December 14, 2012, USEPA strengthened the annual PM_{2.5} standard to 12 ug/m³. The states are to submit their boundary recommendations (non-attainment, attainment/unclassified) to USEPA by December 13, 2013. USEPA will review the states' recommendations and no later than 120 days before its final decision, USEPA is to notify states whether they agree or disagree with those recommendations. States then can respond and provide additional information. Final designations are to be made by USEPA by December 12, 2014. SIPs will be due in 2016 with attainment in 2021 or 2025 depending whether an area is classified as moderate or serious.

Boundary Designation Guidance for the states was released by USEPA in April 2013. Areas with monitored violations must be classified as non-attainment. The non-attainment area should contain the area around the violating monitor and any adjacent counties that have the potential to contribute to the violations. There is no presumptive boundary for a non-attainment area. The size of a non-attainment area should be evaluated and determined on a case by case basis.

Cook, Madison and St. Clair Counties each contain one monitor in violation of the 2012 standard. When look at monitor readings over time, PM_{2.5} levels have come down a lot, so progress is being made. Regionally, Missouri is attaining the 2012 standard and Illinois is not. Ms. Funk, Metro East Community Air Project (MECAP), asked about counties in another state which are adjacent to a violating monitor. Ms. Brooks, Illinois EPA, said that Illinois can discuss an adjacent state but can not make any specific recommendations. Mr. Bloomberg, Illinois EPA, added that USEPA Regions 5 and 7 will probably take this into consideration and USEPA makes the final decision.

The Boundary Designation Guidance sets out five factors to be considered by the states. They include: 2010-2012/2013 air quality data; emissions data and emissions-related data; meteorology; geography/topography; and jurisdictional boundaries. As part of the analysis, need to identify nearby areas and sources that contribute to PM_{2.5} violations. PM_{2.5} emissions can come from a variety of sources and can be emitted directly or formed through chemical reaction in the atmosphere. There are a number of potential sources in the Metro East including power plants and Granite City Works of US Steel. In the Illinois nine county study area, Madison County sources contribute 35 percent of total emissions and the power plant in Baldwin Township in Randolph County contributes 24 percent of total emissions. Emission related data to be considered includes population, population density and degree of urbanization, vehicle miles traveled (VMT) and commuting patterns. Missouri counties contain 67 percent of the population in the St. Louis MSA. In the Illinois nine county study

area, St. Clair, Madison and Macoupin Counties contain over 75 percent of the total population. These figures are used to estimate the amount of population-related PM_{2.5} emissions in the area. Annual travel statistics from Illinois Department of Transportation (IDOT) are examined to determine the vehicle emissions by county. Madison and St. Clair Counties have the highest annual VMT and Baldwin Township the lowest.

Wind speed and direction will influence what source emissions are coming into a monitor. Finding that on high emission days at the Granite City monitor, the predominant wind direction is from the southwest, south and some southeast (general direction of Granite City Works). For the East St. Louis monitor on high days the wind comes from a variety of directions. USEPA provides HYSPLIT modeled air mass trajectory end point destination information. For the monitor in Granite City, on low emission days air masses come from the north and on high concentration days, air masses are from the south (more sources which can contribute).

After examining monitor data and the five boundary designation factors, Illinois developed boundary recommendations. For Chicago, the following counties/townships are going to be proposed as non-attainment: Cook; DuPage; Kane; Lake; McHenry; Will; Oswego township in Kendall; and Aux Sable and Goose Lake townships in Grundy. For the Metro East, Illinois is going to propose the same non-attainment boundaries as for the 1997 standard non-attainment area (Madison, Monroe and St. Clair Counties and Baldwin township in Randolph County). All other counties should be designated as attainment/unclassifiable. Public meeting on these recommendations is this afternoon at the IDOT office in Collinsville. Comments will be accepted until November 12, 2013.

Ms. Funk, MECAP, asked how the contribution of regional transportation construction projects is assessed as there has been a lot of construction in the East St. Louis area in the last few years. Ms. Brooks Illinois EPA, replied that the emissions inventory has on and off road (construction vehicles, etc.) categories and inventory is examined to see what portion of sources these emissions are coming from. Do not look at specific construction projects.

Mr. Coulson, EWG, asked if Granite City Works of US Steel will have a management program in place in the next two years or so. Mr. Bloomberg, Illinois EPA, said that Granite City Works has already started construction on a new baghouse. Mr. Coulson, EWG, observed that with this action and the shut down of the Doe Run facility the area will be going in a good direction. Ms. Bhesania, USEPA Region 7, asked if the Granite City controls were part of a USEPA/state consent decree or judgement. Mr. Bloomberg, Illinois EPA, said that there was a Memorandum of Agreement (MOA) between Granite City Works US Steel and Illinois EPA but there have been changes over time including the time frame. There is nothing in the MOA that USEPA would consider enforceable. Granite City Works of US Steel has a construction permit for the new baghouse. This permit gives them permission to construct but does not mandate construction. Once the baghouse is constructed and/or operating under a permit, that will be considered federally enforceable conditions.

Mr. Tilley, St. Charles County, asked if a non-attainment area remains in non-attainment until there is good data. Mr. Bloomberg, Illinois EPA, said that an area stays in non-attainment until there is clean data and a plan with enforceable control measures which show that the area can stay in

attainment.

V. American Fuel Group Report - Postponed
- St. Louis Regional Clean Cities Program

VI. 2013 Ozone Season Report
- Michael Coulson, East-West Gateway Council of Governments

In the Ozone Data Sharing Project, EWG acts as a repository of ozone data collected from April 1 through October 31 from ten monitors in the St. Louis region. EWG performs a preliminary quality assurance screening, enters data into a computerized spreadsheet and prepares monthly and weekly reports for partner agencies.

The 2008 ozone standard is 75 parts per billion (ppb). An exceedance of the standard occurs when an eight-hour average of values is calculated to be greater than 75 ppb on any given day. A violation of the standard occurs when a three-year average of the annual fourth highest eight-hour average (out of 214 days) is calculated to be greater than 75 ppb. All ten monitors have to pass this test for the area to be considered in attainment of this standard. For the 2013 ozone season, there were 15 exceedances of the 2008 eight hour ozone standard over seven days. In comparison, the 2012 season had 40 ozone days with 170 exceedances. The temperatures of the 2013 summer were average, with a cool period, but there was a heat wave in late August and early September.

To put these numbers into context, annual exceedances of the 2008 eight-hour ozone standard for 1999-2013 were reviewed. Over this period, there were five years with over 170 exceedances. When the five-year running average of these exceedances is examined, continue to see ozone levels decrease. Over time different mobile and industrial control strategies have been implemented and area is continuing to make progress in terms of reducing overall ozone levels.

In 2012 the St. Louis area was classified as a marginal non-attainment area for the 2008 ozone standard. Marginal non-attainment areas have to attain this standard by December 2015. USEPA implementation guidance is still to be finalized identifying what kind of control strategies would be required. Ms. Kemp, USEPA Region 7, said that the comment period for the proposed implementation guidance rule ended in September and USEPA is in the process of reviewing and responding to the over 50 comments received. It is anticipated that USEPA will release the final rule in March 2014. Mr. Bloomberg, Illinois EPA, said that the Chicago area was also marginal.

Mr. Winkelmann, MoDNR, said that Missouri had provided comments to USEPA on the unique situation of the St. Louis area and requested some specificity for the region (two states, eight counties, two USEPA regions). Missouri asked for guidance on controls they can do as are running out of things to do at the federal level and commented on the redesignation substitute option for areas with overlapping standards. USEPA has indicated that they will consider the unique situation of the St. Louis area.

As part of the Conformity Determination process, vehicle emission levels and vehicle miles traveled

(VMT) have been modeled over time. Over the next ten years it is anticipated that pollutant levels will be reduced. Regional VMT levels peaked in 2004 at 72 million miles. Since then there has been a small decrease. It is projected that over time the flattening of VMT will continue. Trends like these will help the area to attain the 2008 ozone standard. Additional information on air quality in the St. Louis area can be found online at the AQ Resource Center section of the EWG website at www.ewgateway.org/environment/aq/aq.htm.

Mr. Coulson, EWG added that much progress has been made since the 1930s when streetlights in the City of St. Louis were on during the day because of the air pollution. Mr. Winkelmann, MoDNR, pointed out that St. Louis was one of the first cities in the U.S. to ban the use of soft coal for residential furnaces. Tucker Boulevard was named for Mayor Raymond Tucker who served as Air Pollution Commissioner during the administration of Mayor Bernard F. Dickmann. Prior to that he was a Civil Engineering professor at Washington University concentrating on air pollution control. Mr. Coulson, EWG, added that in 1934 Mayor Dickmann appointed Raymond Tucker as Smoke Commissioner. Mr. Tucker led the effort to pass a Smoke Ordinance for the City of St. Louis.

Mr. Winkelmann, MoDNR, said that as the ozone season ends, it appears that the fourth highest eight-hour average for the West Alton monitor was 71 ppb which puts this monitor back into attainment of the 1997 eight-hour ozone standard (85 ppb) and the region. It has been a challenge for Missouri to receive approval of their maintenance plan for the 1997 ozone standard due to litigation surrounding the federal transport rule (Cross State Air Pollution Rule or CSAPR). As long as the earlier Clean Air Interstate Rule remains in place, the state can rely on it and can move forward with a maintenance plan for the 1997 eight-hour ozone standard.

Mr. Bloomberg, Illinois EPA, added that when there was a violation in 2012 at the West Alton monitor, USEPA required Illinois to conduct a study to determine the cause of the violation and what could be done since Illinois had an approved maintenance plan for the 1997 standard. The study concluded that the violation was the result of extraordinary weather conditions and there are controls coming which would help in the future to reduce emissions. Does not appear there is anything else Illinois has to do. A similar study had to be performed for the Chicago area.

Mr. McMahon, Federal Highway Administration Missouri (FHWA MO), asked if St. Louis area could reach attainment by 2015. Mr. Coulson, EWG, said it was possible with two more years of good monitoring data. Mr. Bloomberg, Illinois EPA, said that pollutant levels are lower but that pollutant standards can be revised. USEPA and the Clean Air Science Advisory Committee are continually evaluating what the effect of pollutant levels is on human health. If doing so, it is not uncommon for USEPA to reduce the standard. It is anticipated that the ozone standard could be set around 65 ppb. Mr. Coulson, EWG, said that after a standard is set, there are usually lawsuits by either industry or environmentalists or both and that can delay implementation.

Mr. Winkelmann, MoDNR, said that a maintenance plan for the 2008 standard containing contingency measures if a violation were to occur and redesignation request would have to be prepared. The process will be delineated in the USEPA implementation rule. As soon as implementation rule is finalized by USEPA, Missouri can move forward with a maintenance plan.

VII. Update Activities of the States
- Joe Winkelmann, Missouri Department of Natural Resources

MoDNR has received a letter from USEPA Region 7 indicating that the motor vehicle emissions budgets from the Early Progress Plan for the Missouri portion of the St. Louis (NO-IL) marginal non-attainment area for the 2008 eight-hour ozone standard are adequate for use in future Conformity Determinations. This notice will be published in the Federal Register shortly. The budgets will be effective 15 days after publication.

The October 30 Missouri Air Conservation Commission (MACC) has been canceled due to a lack of a quorum of MACC members. It has been rescheduled for Thursday, November 21 at 9 a.m. in Jefferson City. At this meeting there will be a public hearing on the proposed PM2.5 boundary recommendations. MoDNR is statutorily required to hold a public hearing and receive comments before the Governor can submit a recommendation letter to USEPA Region 7 by the December deadline. The weight of evidence analysis and monitoring data shows that all Missouri counties are in attainment of the 2012 annual PM2.5 standard. The recommendation will be for all Missouri counties to be designated as attainment/unclassifiable. At this meeting, the MACC is to adopt on the Commercial/Industrial Solid Waste Incinerator rule and plan. This state rule incorporates by reference the federal requirements for commercial/industrial solid waste incinerator units. The MACC is to adopt the update of Missouri's general definitions rule.

VIII. Other Business

Ms. Funk, MECAP, said that earlier this month the third Metro East Air Quality Forum was held at the Caseyville Township Center. Approximately 105 people with public health and environmental interests attended. There were presentations on indoor air pollution, the 2013 ozone season, transportation and sustainability activities. The keynote speaker was Dr. Kincaid of St. Louis University who talked on asthma as a public health issue.

The next meeting of the AQAC will be on January 28, 2014. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.