AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY January 29, 2013
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 30, 2012 Meeting

II. **2012 Particulate Matter National Ambient Air Quality Standard**
- Missouri Department of Natural Resources

III. **Decommissioning Missouri Stage II Vapor Recovery Program**
- Joe Winkelmann, Missouri Department of Natural Resources

IV. **Update Metro East Sulfur Dioxide Study and Metro East Citizens Air Project Activities**
- Amy Funk, Metro East Citizens Air Project

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

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

VII. **Other Business** - Next meeting March 26, 2013

VIII. **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 30, 2012
East-West Gateway Board Room

Members Present:
Michael Coulson, Chair, East-West Gateway Council of Governments
Betsy Tracy - Federal Highway Administration, Illinois (telephone)
Joe Winkelmann - Missouri Department of Natural Resources
Mike Zlatic - St. Louis County Health Department
Mike Rogers - Illinois Environmental Protection Agency (telephone)
Brad McMahon - Federal Highway Administration, Missouri
Ryan Tilley - St. Charles County
Susannah Fuchs - American Lung Association
Jim Stack - Illinois Department of Transportation

Others Present:
Brian Kresak - US Steel
Kevin Herdler - St. Louis Regional Clean Cities Program

Staff:
Jim Wild Steve Nagle David Wilson Carol Lawrence Gary Pondrom

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 25, 2012 AQAC meeting were approved as circulated.

II. Poplar Street Bridge Enhancement - The Slide
Jim Wild - East-West Gateway Council of Governments

About one and one half years ago, the Missouri Department of Transportation (MoDOT) included in their FY 2012-2015 Transportation Improvement Program (TIP) submittal a $55 million project to reconfigure and reconstruct the I-70, I-44, I-55 and I-64 interchange at the west end of the Poplar Street Bridge (PSB). The ramp from north I-55 to eastbound I-64 would be torn down and rebuilt as a two lane ramp onto the PSB. The ramp from westbound PSB to I-44 west/I-55 south would be rebuilt as a two lane ramp. The ramp from westbound PSB to I-70 west would be rebuilt. The ramp from I-70 east and Memorial Drive to eastbound PSB would be removed and not replaced. Research done as part of MoDOT's New Mississippi River Bridge study indicated that once the new bridge was open there would not be a need for the I-70/Memorial Drive ramp. It also has geometric, safety and speed constraints. In June 2011, the then EWGCOG Board of Directors Chair Kern (St. Clair County Board Chairman) stripped this project out of the FY 2012-2015 TIP. The Chair was

concerned about removal of the I-70/Memorial Drive ramp and the potential elimination of access of truck/freight traffic to communities in the Metro East as well as evening peak congestion on the PSB. The Board suggested that MoDOT and the Illinois Department of Transportation (IDOT) revisit this proposal and develop some options for the Board to consider.

In Spring 2012, MoDOT presented the same project proposal for inclusion in the FY 2013-2016 TIP. At a special meeting of the EWGCOG Board of Directors in May 2012 MoDOT and IDOT presented their research. Six options had been examined and none were found to be satisfactory. Plus, this ramp is in poor condition. The ramp project had the potential to hold up the adoption of the entire TIP ($2.5 billion in projects) by the EWGCOG Board of Directors. There was concern that if there was not a resolution, $30 million of the Missouri funding would go elsewhere in Missouri and the $25 million would go outside of the City of St. Louis. There was concern that there could be a 12 for and 12 against tie vote and the TIP would not be able to go forward. The Board recommended that staff engage a consultant to do an independent review of the PSB/I-55/I-70 interchange project. Due to the independent review, action on the TIP was deferred until September 2012.

HDR Engineering of Kansas City was selected for the review. They were to: review the design options under consideration by MoDOT and IDOT; assess possibilities for other design alternatives not considered by the states; and develop preferred design recommendations and a final report. They were also directed to: identify options to reduce or eliminate the primary causes of congestion on the PSB; examine the feasibility of keeping the I-70/Memorial Drive ramp; and identify options to access IL Route 3. Project funding would remain at $55 million. After assembling information from MoDOT, IDOT and EWGCOG, HDR held an in-house review of data and the access justification report (AJR). HDR drew on the expertise of their professional staff (bridge engineers, structural engineers, highway engineers, planners, traffic operations, and engineers who have worked with MoDOT and IDOT).

To address the concern about truck access to the Metro East, HDR proposed that a connector ramp be constructed at the Illinois end of the Martin Luther King Bridge (MLK) that tied into west bound I-64 and Illinois Route 3. There would be an additional travel distance of one to two miles but actual travel time would be reduced.

HDR then examined the bigger, long-term problem of the daily congestion on eastbound PSB into Illinois, particularly during the evening peak. A HDR bridge engineer suggested widening the east bound portion of the PSB by one lane. The PSB is actually two structures which was over-designed for its time. Instead, the eastbound bridge structure would be jacked up, slid over nine feet and then put back down. Another eastbound lane would then be constructed. If the open spaces between existing piers were infilled with concrete and a structure built around them, the bridge could carry the additional load of that new lane. The box beams underneath the bridge deck then would be tied together, making the two bridge structures into one which would be stronger than it is today.

Traffic model showed that with the additional lane there would a good flow on the PSB but there would still be congestion on the eastbound I-64 approach to the PSB. Three eastbound I-64 lanes are reduced to two at the last Missouri exit and then I-64 goes back to three lanes. This configuration

causes some of the eastbound back-up on the PSB. The Sixth St. ramp brings traffic up into the two lane section. HDR recommended that the Sixth St. ramp be extended eastward to join up with new lane on PSB. Entering the PSB eastbound there would be two lanes from I-64, two lanes from I-55 ramp and the Sixth St. ramp extension would total five lanes. To go a step further, HDR also recommended adding a separate collector/distributor lane south of the existing elevated lanes. Drivers would have the option to exit I-64 or continue onto the PSB. In addition the last Missouri exit on east bound I-64 would be reconfigured to be an on-ramp to westbound I-64 and the Broadway on-ramp to westbound I-64 would be reconfigured to be an exit ramp from eastbound I-64. Traffic model shows that congestion would improve significantly.

The findings of the HDR study and their recommendations were presented at a special Board of Directors meeting in mid-September. That way the Board would have time to review the analysis and work out the politics before their regular meeting on September 26. The recommendations presented by HDR would alleviate congestion, provide a long term solution to congestion, have a positive regional benefit and improve safety. The total cost for all these options would be more than the $55 million of Missouri funds available. The project was divided into three phases based on construction and funding availability. Phase 1 would include the $17 million MLK connector and $25.7 million upgrade of three of the four ramps at the west end of PSB. Work on Phase 1 could begin as early as 2015. States have already begun design work. Phase 2 would be set for 2016 and would include the PSB slide, modification of the Sixth St. ramp and rebuilding the I-55 ramp onto eastbound PSB. Phase 2 would cost $37.3 million. Cost of Phase 1 and Phase 2 would total $80 million and would solve the congestion problem, redo the interchange and add fifth east bound lane on the PSB. Illinois will need to find $25 million which is the amount EWG had heard that Illinois could find. Phase 3 would consist of the construction of the collector/distributor lane and the redirection of two ramps in Missouri and is estimated to cost $31 million. MoDOT will have to look for funding. The total cost for all three phases would be $111 million. At the end of the HDR presentation, the Board gave HDR a round of applause. The MoDOT District Engineer called it an “elegant solution” to the problem.

At the September 26 Board of Directors meeting, the Board voted to adopt the recommendations made by HDR and made a commitment to amend the FY 2013 -2016 TIP in January 2013. The Conformity Determination and the FY 2013-2016 TIP were approved by the Board. The Board was informed that several things need to be accomplished before January. A new Conformity Determination is to be performed because of the addition to the TIP of the MLK connector, the PSB slide and the extension of the Sixth St. ramp. Since a funding source for Phase 3 has not been identified, it would not be part of the amendment. A financial commitment from Illinois is needed.

Staff is working with IDOT and MoDOT and has begun the Conformity Determination effort. Last week the Governor of Illinois announced the State’s commitment to make available $25 million for these projects. Illinois has recognized the importance of these projects to the region and to commerce. In January, the amendment to the FY 2013-2016 TIP and the Conformity Determination will be presented to the Board. With approval, can move ahead with getting these projects built. After the New Mississippi River Bridge opens in early 2014, work on the PSB interchange would begin. Work on the MLK connector could begin in 2015.

Mr. Nagle, EWGCOG, said that this summer, EWGCOG Executive Director said that coordinating the independent review was a great example of EWGCOG coming to the rescue. Mr. Wild and EWGCOG staff were given a round of applause. Mr. Stack, IDOT, said that EWGCOG staff did an excellent jot to help solve what could have been a difficult situation for all. Mr. Wild, EWGCOG, said that staff had worked very hard on this and it was nice to receive praise for their efforts.

III. Great Streets Initiative
- David Wilson, East-West Gateway Council of Governments

The first round of this initiative began in 2004 when communities from throughout the region were invited to apply for consulting services in order to develop a "Great Street" in their community. Four projects were selected and one was a six block section of South Grand Boulevard south of Tower Grove Park in the City of St. Louis. The South Grand Community Improvement District (CID) and the City of St. Louis partnered in this effort. It already had a number of elements which make up a Great Street. A Great Street is one that serves pedestrians, bicyclists, automobiles and transit and also supports and enhances local economic activity.

Initial consultation began in 2006-2007 and federal stimulus funds in 2009 enabled the implementation of two project phases. The third phase is currently being implemented. Problems identified by South Grand residents were narrow, cracking sidewalks, limited off-street parking, challenging on-street parking, cross walk safety for pedestrians and speed of traffic (posted at 35 miles per hour [mph], average 42-45 mph). Further into the project, identified following environmental issues: street tree health; stormwater; heat island effect; and light and air pollution.

At the beginning of the project, South Grand had two lanes in each direction and parking on both sides of the street. Street configuration option preferred by residents was one lane in each direction with a center turn lane and keeping parking on both sides of the street. The initial design also created bulb-outs at South Grand Boulevard corners to narrow the crosswalk distance for pedestrians. It would improve pedestrian safety, shorten time to cross street and improve travel time of vehicles. As the project moved forward, it was determined that it was possible to install bulb-outs on all sides of intersections. This would create additional green space and rain gardens with native plants would serve as stormwater catchment areas. The Metropolitan St. Louis District (MSD) is interested in researching the effectiveness of such an approach. A city tree consultant recommended increasing the size of tree wells and changing the type of soil to have healthier tree growth. Also proposed was the addition of pervious sidewalk sections to increase rainwater and air flow down to the tree roots. With all the green actions taken, pervious area in the six blocks is estimated to have increased by about 16 percent.

Starting as a one month pilot project, the City Streets Department installed temporary barriers to create the corner bulb outs and restriped the traffic lanes in the six block area. The Streets Director was skeptical about the effectiveness of the "street diet" but when he learned of the local support he agreed to set up this pilot project. Portable signs were deployed announcing the project and listing a telephone number for a survey about it. There was a positive response. The cheapest action taken was the City reduced the speed limit from 35 mph to 25 mph and improved the traffic signal

interconnects. Lane changes are now permanent. The average vehicle speed is now around 32 mph and traffic now moves through this area more efficiently. It also makes neighborhood more safe for pedestrians and reduces street noise.

The rain gardens should be installed in Spring 2013. MSD has been conducting pre-installation monitoring and pollutant analysis of stormwater entering the storm drains and will continue monitoring after the rain gardens are in place. MSD has provided matching funds for these measurements. EWGCOG has partnered with the Missouri Department of Conservation (MDC), the South Grand CID and the St. Louis Academy of Science to install six large signs describing the purpose of and contents of the rain gardens. The South Grand CIP has reported that even though some elements still have to be completed, since the final installation of the bulbouts, tax revenues are up eight percent.

In a related pilot project started a few years earlier, EWGCOG worked with the City of St. Louis and MSD to install pervious surfaces (pervious pavers, pervious asphalt, pervious concrete) in three alleyways. The function of these surfaces and water quality is to be evaluated over time. The principles used in South Grand Great Streets project could be used in other areas. Great Street Initiative images, powerpoints and a design guide can be found at www.greatstreets-stl.org or www.ewgateway.org. Three communities have been selected to participate in a second round of Great Street consulting for Missouri communities.

IV. American Fuel Group Report
St. Louis Regional Clean Cities Program

Mr. Nagle, EWGCOG, reported that as the major refineries on the East Coast reduced their operations before Super Storm Sandy there could be an impact on prices. Clean Cities is doing everything it can to make us more energy independent.

Mr. Herdler, St. Louis Regional Clean Cities Program (SLRCC), said that SLRCC is working with Ranken to start a mechanic training class for compressed natural gas (CNG) vehicles. Businesses and school districts are interested in CNG vehicles as well as propane vehicles. Allied Waste brought in 74 trash vehicles fueled with CNG and intends to buy 50 CNG vehicles. Allied Waste's refueling station is located at their St. Charles Rock Road transfer station. Waste Management is also going to use CNG-fueled trash trucks.

SLRCC is planning their activities for the January 2013 St. Louis Auto Show at America's Center in downtown St. Louis. The plan is to take 40,000 square feet in the Edward Jones Dome and replicate a city street with trash trucks, a garage for repairs and charging stations for electric vehicles. There will be a ride and drive area with electric, CNG and propane vehicles and a park area where Auto Show visitors can rest and receive one-on-one information on alternative fuel vehicles.

V. 2012 Ozone Season Wrap Up
- Carol Lawrence, East-West Gateway Council of Governments

There were 40 ozone days with 170 exceedances of the 2008 eight-hour ozone standard. Every monitor in the non-attainment area had double-digit exceedances. The current 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. The 2012 summer was the fourth hottest on record. There were over 60 days with temperatures of 90° or higher. There were nine days with just one exceedance and one day where all the monitors recorded an exceedance. As part of this project, EWGCOG also tracks information from four monitors located north and south of the ozone non-attainment area. These monitors experienced 26 ozone days and 37 exceedances.

The 2012 ozone data still has be verified but it appears that the West Alton monitor violated the 1997 eight-hour ozone standard. MoDNR and USEPA are holding discussions about implications and next steps. However, when the five-year running average of 1999-2012 exceedances is examined, continue to see ozone levels decrease. Trend shows a decline in exceedances and area is continuing to make progress. Mr. Wilson, EWGCOG, observed that if the area had not been making progress over the last 15 years, the air quality this summer could have been much worse.

VI. Update Activities of the States
- Joe Winkelmann, Missouri Department of Natural Resources
- Mike Rogers, Illinois Environmental Protection Agency

MoDNR has installed a near-roadway nitrogen dioxide (NO_2) monitor in the greenhouse parking lot in Forest Park north of I-64. Full-time recording of data should begin January 1, 2013. MoDNR worked with the Missouri Department of Transportation to meet the federal near-roadway monitoring requirements.

The Missouri Air Conservation Commission (MACC) met on October 25. The next meeting is December 6 in Jefferson City. There will be a public hearing on the recision of the rule at 10 CSR 10-6368, control of mercury emissions from electric generating units (EGUs). Since the federal Clean Air Mercury Rule (CAMR) was vacated, this state rule is now obsolete. CAMR is being replaced by the federal Mercury Air Toxics guidelines. The second rule up for public hearing is 10 CSR 10-6191, referencing the federal requirements for sewage sludge incinerators. This rule primarily affects the Metropolitan St. Louis Sewer District. Also up for public hearing is the sewage sludge incinerators emissions guidelines plan. This plan is required by Clean Air Act Section 111(d) to demonstrate that Missouri can enforce the requirements of the sewage sludge incinerators emissions rule. With the plan, Missouri can receive enforcement authority for this rule.

The public comment period on the revisions to the Illinois vehicle emissions inspection program is open until November 5. These revisions were made and implemented in 2000 but the revisions had not been submitted to USEPA Region 5 for approval. If a public hearing is requested, it will be on November 13 in Springfield and the comment period then will be extended until December 13, 2012. A summary of the changes is available under the Air tab at the Illinois EPA web site.

Discussions continue with petroleum industry representatives on the decommissioning of the Stage II Vapor Recovery program for the Chicago area. Anticipate that a rule proposal will be submitted to the Illinois Pollution Control Board in December 2012. The rule proposal will be to end the Stage II program in the Chicago area and for the new Stage II program to begin in January 2014. The deadline for decommissioning of all Stage II facilities would be by the end of 2016 or 2017, depending on comments and/or further discussion. Majority of the Stage II equipment is vacuum-assisted type which is incompatible with the current on-board (vehicle) vapor recovery equipment. When vehicles are refueled, excess air is brought back into the underground gasoline storage tank where it becomes saturated with hydrocarbon vapors. The pressure inside the tank increases until vapors are released through the vent pipe, contributing to air pollution. With the decommission of this type of equipment at service stations in a two to three year period, could get rid of the problem. Illinois EPA could dedicate resources to other programs.

A decision is expected in early December by USEPA Region 5 on a permit petition by US Steel, Granite City Works. Only two comments were received (from USEPA) on a proposed permit for a new baghouse for the basic oxygen furnace at the Granite City Works. It is expected that the permit will be released by the end of the year. The USEPA Appeals Board remanded a permit for Mississippi Lime back to Illinois EPA. Illinois EPA is working to address the issues raised.

VII Other Business

Mr. Wild, EWGCOG, announced that EWGCOG will be co-hosting a Title VI workshop for federally funded jurisdictions and agencies on November 14 at the University of Missouri-St. Louis. Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color and national origin in programs and activities receiving federal financial assistance. Mr. Nagle, EWGCOG, announced that Gateway's annual meeting will be on November 9 at the Hilton at the Ballpark in downtown St. Louis.

Ms. Fuchs, American Lung Association, said that on November 2 the Metro East Citizens Air Project (MECAP) will be hosting the second Metro East Air and Health Forum in Collinsville. At this event, MECAP and the St. Louis Regional Clean Air Partnership will be presenting four Metro East communities with Care for Air award. Discussions are underway for holding a similar type event on the Missouri side next year.

The next meeting was scheduled for January 29, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY March 26, 2013
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 January 29, 2013 Meeting

II. **Research Findings of National Climate Assessment**
- John Posey, East-West Gateway Council of Governments

III. **Attainment Plan for the Herculaneum Lead Area under the 2008 Lead National Ambient Air Quality Standard (NAAQS)**
- Joe Winkelmann, Missouri Department of Natural Resources

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

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

VI. **Other Business** - Next meeting April 23, 2013
- Missouri Department of Natural Resources
- Illinois Environmental Protection Agency

VII. **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, March 26, 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
Kathrina Donegan - St. Louis County Air Pollution Control Program
Betsy Tracy - Federal Highway Administration, IL
Bruce Carmitchel - Illinois Department of Transportation
David Bloomberg - Illinois Environmental Protection Agency
Mike Right - AAA, Auto Club of Missouri

Others Present:
Jim Stack - Illinois Department of Transportation, District 8
Joe Gray - Illinois Department of Transportation, District
Mike Rogers - Illinois Environmental Protection Agency
Kevin Herdler - St. Louis Regional Clean Cities Program
Amy Funk - Metro East Community Air Project
Bob Klepper - Missouri Coalition for the Environment
Kathy Andria - American Bottom Conservancy
Rich Wiese - U.S. Steel
Stefanie Boehme - U.S. Steel
Christopher Schmidt - Illinois Department of Transportation

Staff:
David Wilson Carol Lawrence Gary Pondrom

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). Ms. Funk, Metro East Community Air Project (MECAP) provided clarification on passive monitors used in her study. Corrections to the minutes of the January 29, 2013 AQAC meeting were approved as circulated.

II. Research Findings of National Climate Assessment
- John Posey, East-West Gateway Council of Governments

In January 2013 the draft National Climate Assessment report was released and the public comment period began. Comments will be accepted until April 12, 2013. As part of the 1990 Global Change

Research Act, the National Climate Assessment is required to be produced every four years. The first was produced in 2000, the second in 2009 and the third should be delivered in December 2013. People are encouraged to go to the National Climate Assessment website at http://ncadac.globalchange.gov to review and comment on the draft document. Only on-line comments will be accepted.

The National Climate Assessment effort is overseen by the National Climate Assessment Development Advisory Committee (NCADAC). This is a federal advisory committee whose members were appointed by the Secretary of Commerce. Work began in January 2011.

The report has 30 chapters analyzing climate change impacts on a variety of different sectors and geographic regions. Sectors include: water resources; energy supply and use; transportation; agriculture; forestry; ecosystems and biodiversity; and human health. Mr. Posey served on the writing team for the transportation chapter. The U.S. was divided into eight geographic regions. For analysis purposes, ocean and marine resources and coastal areas were considered as two additional geographic regions. The committee also looked at some issues that cut across sectors. These included rural communities, Native American tribes and urban infrastructure.

A subcommittee reviewed all of the key findings from each chapter, identified those factors that kept emerging and distilled them into 11 draft report findings. The aim is to present these key findings and not debate or defend them. Right now, everything remains subject to revision. The first finding is that global climate is changing, and this apparent across the U.S. in a wide range of observations. The climate change of the last fifty years is due primarily to human activities, primarily the burning of fossil fuels. This was a finding of the previous assessment as well. Some extreme weather and climate events have increased in recent decades, and there is new and stronger evidence that many of these increases are related to human activities. Over the last fifty years different portions of the U.S. have seen an increase in extreme weather events like high temperatures, heavy downpours or more severe droughts. Human-induced climate change is projected to continue and accelerate significantly if emissions of heat-trapping gases (greenhouse gases) continue to increase. Impacts related to climate change are already evident in many sections and are expected to become increasingly challenging across the nation throughout this century and beyond. Climate change threatens human health and well being in may ways including impacts from increased extreme weather events, wildfire, decreased air quality, diseases transmitted by insects, food, and water and threats to mental health. Climate change interacts with socio-economic and other factors to create vulnerabilities. The Assessment identified several vulnerable populations including children, elderly, sick, low income and Native American tribes. Infrastructure across the U.S. is being adversely affected by phenomena associated with climate change, including sea level rise, storm surge, heavy downpours and extreme heat. For example, sea level rise, storm surges and extreme heat can affect roads, rail lines and runways. Reliability of water supplies is being reduced by climate change in a variety of ways that affect ecosystems and livelihoods in many regions, particularly the Southwest, the Great Plains, the Southeast and the islands of the Caribbean and the Pacific, including the state of Hawaii. In many regions climate change increases the likelihood of water shortages and competition for water for different uses and the risk of seasonal shortages. Adverse impacts to crops and livestock over the next 100 years are expected. Over the next 25 years

or so, agriculture sector is projected to be relatively resilient, even though there will be increasing disruptions from extreme heat, drought and heavy downpours. U.S. food security and farm incomes will also depend on how agricultural systems adapt to climate changes in other regions of the world. Natural ecosystems are being directly affected by climate change, including changes in biodiversity and location of species. As a result, the capacity of ecosystems to moderate the consequences of disturbances such as droughts, floods, and severe storms is being diminished. Life in the oceans is changing as ocean waters become warmer and more acidic. Oceans have become 30 percent more acidic as they absorb larger amounts of carbon dioxide from the atmosphere. Planning for adaptation (to address and prepare for impacts) and mitigation (to reduce emissions) activities is increasing, but progress with implementation is limited. It is Mr. Posey's view that anything we can do to make us more resilient, whether directly for climate change or not, has benefit now and in the future.

At the end of the public comment period, NCADAC will spend the next eight to nine months reviewing and responding to comments received. In addition, the National Academy of Science will be coordinating a peer review of the document. The final National Climate Assessment report is to be delivered to the President in December 2013. It is hoped that the Administration will adopt it as the National Climate Assessment early in 2014.

Ms. Andria, American Bottom Conservancy (ABC), asked if the outcome of the National Climate Assessment would be legislation or changes to policies of agencies. Mr. Posey, EWG, said that it is a research project and hope that it will inform the adaption activities at government agencies.

Mr. Wilson, EWG, said that the theme of the March 19 Earth Day Symposium was "Climate Trends: Impacts and Adaptions". Dr. Fishman, professor of meteorology at St. Louis University gave a presentation on climate change at the global and national perspective and Mr. Posey described climate trends in the Midwest. One takeaway was that we can expect drier, hotter summers and wetter winters and rain events will probably be more severe and heavier over a shorter period of time.

III. Attainment Plan for the Herculaneum Lead Area under the 2008 Lead National Ambient Air Quality Standard (NAAQS)
- Joe Winkelmann, Missouri Department of Natural Resources

Purpose of Attainment Demonstration plan is to satisfy the Clean Air Act requirements for the Herculaneum lead non-attainment area under the revised (in 2008) National Ambient Air Quality Standard (NAAQS) for lead. The country's last remaining primary lead smelter is located in Herculaneum in Jefferson County. The smelter processes lead ore concentrate and is now owned and operated by the Doe Run Company. The primary lead smelter has been in operation for 120 years under different ownerships. Lead is both a criteria pollutant and an air toxic. When lead was in gasoline, it was a pollutant of regional concern but now it is more typified by a single source. Missouri is going to demonstrate attainment with the new (2008) standard. This plan was presented

at a public hearing at the February 5, 2013 Missouri Air Conservation Commission (MACC) meeting and is to be adopted at the March 28 MACC meeting.

In October 2008 the lead NAAQS was strengthened from 1.5 micrograms per meter cubed (ug/m^3) to 0.15 ug/m^3. One ug/m^3 is the equivalent of about 20 drops of water in a vessel the size of Busch Stadium. The form of the standard was changed from quarterly (four values in a year) to three month rolling average (12 values in a year).

Missouri has had an extensive role in the mining and smelting of lead. About 80 percent of the country's lead comes through Missouri by either mining, primary smelting or secondary (post consumer recycling) smelting. In addition to the primary smelter in Herculaneum there are two secondary smelters in Missouri which process used car batteries. The Doe Run secondary smelter in Buick is the country's largest lead recycling smelter. The 40 mile long Viburnum Trend (Den, Iron and Reynolds Counties) is the largest lead mine in the world. Due to historic role in lead regulation, the Air Pollution Control Program of the Missouri Department of Natural Resources (MoDNR) has deployed and maintained an extensive air quality monitoring network around theses areas of high lead activity. Monitoring data was used in 2009 to recommend that the area within the Herculaneum city limits and the area around the Buick smelter and the Viburnum Trend be designated as non-attainment. In 2010 these areas were designated as non-attainment and a State Implementation Plan (SIP) is to be prepared for both areas.

Over the years there have been several SIP revisions to bring the Herculaneum area into compliance with the NAAQS. The last previous revision was in 2007. Monitoring data showed that the area had gone below the standard and then went up so the U.S. Environmental Protection Agency (USEPA) issued a SIP call requesting Missouri revise their Herculaneum lead SIP to bring area into compliance. Since 2008, Herculaneum has been in attainment of the 1978 standard. For the three-month rolling average for the 2008 standard ending in November 2010, the maximum monitored concentration was 0.73 ug/m^3. The Clean Air Act requires a SIP be done for a non-attainment area. Section 191 requires a state to submit a non-attainment area SIP and Section 172 sets out the elements a SIP must address. State is to demonstrate that it has: ambient air monitoring and air quality data; conducted an emissions inventory; control strategies and attainment demonstrations (showing emission reduction to be achieved through strategies and technology); analyzed Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT) control strategies; Reasonable Further Progress will be achieved over the time frame of the SIP; and included contingency measures in case the delineated control measures do not result in attainment of the standard. An air dispersion model (AERMOD) is used to develop the best available estimate of future ambient air concentrations of lead. A base case example using meteorological data is run in order to compare emission estimates to actual monitoring data.

Current operations at the Doe Run smelter in Herculaneum have a lead production limit of 130,000 tons per year. The facility contains a sinter plant where lead ore concentrate (lead sulfide) is converted to lead sinter at high temperatures. Sinter and coke is fed into the blast furnace to yield molten lead and slag. The molten lead is fed into kettles and delivered to the refinery to be placed in molds for further processing. At the strip mill the lead alloy is cast into long strips based on

customer specifications. As part of a 2011 Federal Consent Judgement decree affecting several Doe Run facilities, Doe Run has agreed to shut down the Herculaneum smelting operations at the sinter plant by December 31, 2013. The blast furnace is to be shut down by April 30, 2014.

In addition to the Consent Judgement Decree shut down, for several years Doe Run had invested in research and development of a water/acid based electrolysis project to refine lead ore. Doe Run is a part owner of the technology and ran a pilot plant in Boss MO for several years. Since this process would not be fire based, it would have near zero emissions and none of the by-products of smelting. However, in June 2012 for independent business reasons, Doe Run made the decision to not go ahead and build this new technology facility at the Herculaneum site. After April 2014, there will not be a primary lead smelter in the U.S. and the only source of domestic lead will be from recycling operations. Lead will have to be sent out of the country for processing.

The U.S. Department of Energy (DOE) has identified lead as a strategic metal and as the cheapest way to store energy for wind turbine technology and large solar technology. Lead is 40 times cheaper than lithium. Lithium works in small applications. For practical purposes lithium is not recyclable and there is little production in the U.S. The lead industry is looking for DOE grants to develop the fourth generation of lead storage technology to reduce the weight of batteries.

Mr. Wilson, EWG, observed that China does not have stringent air quality regulations but we require U.S. industries to deal with it. We need a global trade agreement, to protect the global environment. Mr. Winkelmann, MoDNR, said that the U.S. lead industry is concerned that if go ahead with this costly new technology that China would start up small scale primary smelters and flood the market with cheap processed lead. Then the lead industry would not be able to recoup their investment. There is a primary smelter in New Brunswick Canada. The Canadian lead standard is 30 ug/m^3 which is 200 times higher than the U.S. standard. Ms. Andria, ABC, asked how lead from recycled batteries is controlled. Mr. Winkelmann, MoDNR, said that lead from recycling is regulated under MACT and newly revised air toxic standard.

A lead SIP has also been developed for the secondary smelter at Buick. Strategies include the complete enclosure of the facility and using negative air pressure to keep lead emissions inside before they become fugitive. Doe Run is also going to do process changes and install dry scrubber before the baghouse. It will filter out lead than sulfur dioxide (SO_2) emissions.

Ms. Andria, ABC, asked if there were any lead monitors located between Herculaneum and the City of St. Louis. Mr. Winkelmann, MoDNR, replied that the monitor was sited in St. Louis based on population. Now that there is no lead in gasoline, lead levels in St. Louis are at the minimum detectable level and is just a fraction of the 0.15 ug/m^3 standard. The extent of lead influence is about 2.5 miles from the stack. Ms. Andria, ABC, then asked if there were any Illinois residences in that 2.5 mile area. Mr. Winkelmann, MoDNR, said that the Illinois side is typified by flood plain and agriculture. The prevailing wind direction is to the northwest which does not indicate that there would be much transport to that area.

Even though Doe Run is going to shut down the primary smelter operation at Herculaneum, the company wants the flexibility to operate the strip mill and to operate the refinery building as a re-melter (re-melt, casting ingots into other forms and alloy mixing). In March 2012 Doe Run entered into negotiations with a developer/environmental service company to sell much of its Herculaneum property for redevelopment. Currently, no decisions have been made on future land use/redevelopment.

All of the provisions from previous Consent Judgement decrees and SIPs still remain in force. The strip mill production limit now will be 3,750 tons of cast lead per three-month rolling average. Doe Run is currently producing 130,000 tons of pure lead. For the re-melter operation, Baghouses 8 and 9 will each be limited to 3.5 pounds of emissions per day. With the elimination of the smelter, Baghouse 7 will be eliminated. In the plan, the current fence line of the Herculaneum facility was modeled with model receptors set every 50 meters. Output from the air dispersion model showed low lead levels at the current fence line. To see the effect of the shutdown, more refined modeling was performed by locating receptors, at ten meter spacing, in areas inside the fence line which are currently non-ambient. In this way, can determine extent of ambient/non-ambient footprint (or attainment/non-attainment zone). This will give Doe Run the flexibility to move in the fence line as a result of the shut down and allow for potential redevelopment of area (after clean-up concluded). Doe Run has to notify MoDNR of any fence line change.

This SIP is made legally enforceable through a 2013 Consent Judgement to be lodged in Jefferson County. Consensus has been reached between MoDNR, Doe Run and the Attorney General's office. Permanent and enforceable actions include: new control measures and products; production and emission limits; required practices and procedures; contingency measures; penalty provisions; and dispute resolution provisions.

Mr. Klepper, Missouri Coalition for the Environment, asked how much of a role the legislative and the environmental community has had in developing this SIP. Mr. Winkelmann, MoDNR, said that as project manager, he has had limited contact with elected officials. During the development of designation recommendations, Jefferson County wanted to make sure that MoDNR defined the non-attainment area as appropriately as possible. The environmental community is on board with this lead SIP. They have had an active role in past SIP revisions and consent decrees. Their input is welcome. The environmental community did not present comments at the February public hearing.

Ms. Andria, ABC, asked if there had been any negative comments from Herculaneum residents with children. Mr. Winkelmann, MoDNR, said there were no comments. He observed that Herculaneum has been involved in smelting and mining of lead since its inception. There are new subdivisions with children west of I-55 which are out of the area of impact. The old town part of Herculaneum does not have that many young children. This may be result of the voluntary buy-back program from five to seven years ago.

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

At the January 2013 St. Louis Auto Show, the Eco City display of alternative fuel vehicles took up the majority of floor space in the Edward Jones Dome at America's Center. Approximately 3,000 people participated in the ride and drive program.

In February Clean Cities moved into a new office in Kirkwood. Clean Cities has received a grant to model how alternative fueled vehicles can help to reduce emissions and improve air quality. EWG will have a role in this project. Last year, activities in the St. Louis (MO-IL) area and new alternative technologies help to displace more than 10 million gallons of gasoline/diesel fuel. This is equivalent to 125,000 tons of greenhouse gas emissions. This 2012 report will be submitted to DOE. In October 2013 Clean Cities will participate in the NAPA Car Show at Gateway International Speedway in Illinois.

On April 15, Mr. Herdler will be in Jefferson City to talk with the House Republican Study Group. Legislation has been proposed to raise the motor fuel tag (sticker) tax for alternative fuel vehicles (from cars to large trucks). The tag is supposed to cover the motor fuel tax ($0.17 gallon) that would be paid if a vehicle would be run on conventional fuel. For a big truck the sticker costs $1,000. This amount is equivalent to 5,780 gallons of diesel fuel used/purchased in a year. It has been proposed to increase the tag tax for all alternative fuel vehicles. It is proposed to raise the large truck tag tax to $1,880. The problem with this proposal is that $1,880 is the equivalent is 10,000 gallons of diesel fuel. An operation like Allied Waste might burn that amount in a year operating trash trucks but for a city truck or very small fleet, they might never reach 10,000 gallons. In Mr. Herdler's view, this proposed increase would act as a disincentive, for the purchase of alternative fuel vehicles.

V. Update Activities of the States
- Joe Winkelmann, Missouri Department of Natural Resources
- David Bloomberg, Mike Rogers, Illinois Environmental Protection Agency

Mr. Winkelmann, MoDNR, announced that RegForm will hold an Air Compliance Seminar on March 27 in Columbia, MO.

At the March 28 MACC meeting the Herculaneum and Buick lead State Implementation Plans (SIPs) are to be adopted. There will be a public hearing on the proposed revision to the SO_2 boundary recommendations. Green County (Springfield) was recently certified to have clean air quality data for 2010-2012. MoDNR is recommending that Green County not be included in non-attainment area. The second hearing will be on the proposed nitrogen dioxide (NO_2) infrastructure SIP.

Mr. Bloomberg, Illinois EPA, announced that the ownership of several coal-fired power plants had changed in Illinois. Ameren has sold their five coal-fired power plants to Dynegy and Dominion sold several of their plants to a private energy fund. Concerning proposed SO_2 non-attainment areas, Ameren has made comments concerning their status in one of the two areas in northern Illinois.

Illinois EPA is moving forward with rule making for the Granite City lead non-attainment area. Draft rules should be presented to the Illinois Pollution Control Board (IPCB) in the next few months. The rule making has been complicated in that the rule is to appear as general applicability but with special geographic area of interest (not identifying specific facility). When Illinois EPA prepares the SO_2 rule, the affected facilities will be named.

Mr. Rogers, Illinois EPA, said that the proposed Stage II Vapor Recovery program requirements for the Chicago area have been accepted by the IPCB. No schedule for public hearings has yet been established. With this rule, effective January 1, 2014, Illinois EPA would stop the requirement for the installation of Stage II equipment at service stations and allow certain stations to start decommissioning at that point in time. Service stations still have to operate their Stage II systems until decommissioning occurs. Meeting the January 2014 deadline depends on action by the IPCB.

Mr. Winkelmann, MoDNR, said that USEPA had verified Missouri's technical support document justifying the removal of Stage II Vapor Recovery program controls. However, there have been some changes and additional documentation will be needed and presented to USEPA. These changes were discussed at the March 22 stakeholders meeting. Changes to the program are moving forward based on the USEPA agreement on the technical support document. Ms. Donegan, St. Louis County Department of Health, said that service stations began decommissioning their systems on March 15. In order to keep their permits up to date with the State and/or St. Louis County, the stations have to be retested to show that Stage I requirements are being satisfied. This testing is time consuming.

VI. Other Business

Ms. Andria, ABC, announced that USEPA has reopened the Title V operating permit for the Veolia hazardous waste incinerator in Sauget IL and is proposing to require Veolia to install a multi-metals continuous emissions monitoring system (CEMS) on one unit for one year. In the past, Veolia has had a number of violations including not accurately characterizing waste to be incinerated. USEPA is accepting comments until April 1, 2013. The ABC recommended that CEMS be installed on all three units at the facility. If a system is put on one unit, there is potential that other units without the continuous emissions monitoring system could be used to exceed the limits. A while ago ABC petitioned USEPA with objections to the Title V operating permit for Granite City Works US Steel issued by Illinois EPA. USEPA accepted the objections and directed Illinois EPA to make changes and re-submit. Illinois EPA has issued a revised permit and ABC has filed comments. The outcome is pending. Ms. Andria, ABC, announced that USEPA has published a proposed rule to amend regulations concerning excessive emissions during periods of start up, shut down or malfunction at a facility. According to Ms. Andria, Illinois companies consider this rule a "get out of jail free card" when there are problems at their facilities. Last week Maxine Lipeles of Washington University Environmental Law Clinic presented comments on behalf of ABC at a public hearing in Washington, D.C. The comment period is still open.

The next meeting of the AQAC was scheduled for Tuesday, April 26, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY April 23, 2013
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 March 26, 2013 Meeting

II. **One STL: Many Communities. One Future - Regional Plan for Sustainable Development**
- David Wilson, East-West Gateway Council of Governments

III. **St. Louis University Ozone Garden Project**
- Jack Fishman, Ph.D., St. Louis University
- Kelly Belina, St. Louis University

IV. **St. Louis Regional Clean Air Partnership 2013 Activities**
Susannah Fuchs, American Lung Association

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

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

VII. **Other Business**

VIII. **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, March 26, 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
Kathrina Donegan - St. Louis County Air Pollution Control Program
Betsy Tracy - Federal Highway Administration, IL
Bruce Carmitchel - Illinois Department of Transportation
David Bloomberg - Illinois Environmental Protection Agency
Mike Right - AAA, Auto Club of Missouri

Others Present:
Jim Stack - Illinois Department of Transportation, District 8
Joe Gray - Illinois Department of Transportation, District
Mike Rogers - Illinois Environmental Protection Agency
Kevin Herdler - St. Louis Regional Clean Cities Program
Amy Funk - Metro East Community Air Project
Bob Klepper - Missouri Coalition for the Environment
Kathy Andria - American Bottom Conservancy
Rich Wiese - U.S. Steel
Stefanie Boehme - U.S. Steel
Christopher Schmidt - Illinois Department of Transportation

Staff:
David Wilson Carol Lawrence Gary Pondrom

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). Ms. Funk, Metro East Community Air Project (MECAP) provided clarification on passive monitors used in her study. Corrections to the minutes of the January 29, 2013 AQAC meeting were approved as circulated.

II. Research Findings of National Climate Assessment
- John Posey, East-West Gateway Council of Governments

In January 2013 the draft National Climate Assessment report was released and the public comment period began. Comments will be accepted until April 12, 2013. As part of the 1990 Global Change

Research Act, the National Climate Assessment is required to be produced every four years. The first was produced in 2000, the second in 2009 and the third should be delivered in December 2013. People are encouraged to go to the National Climate Assessment website at http://ncadac.globalchange.gov to review and comment on the draft document. Only on-line comments will be accepted.

The National Climate Assessment effort is overseen by the National Climate Assessment Development Advisory Committee (NCADAC). This is a federal advisory committee whose members were appointed by the Secretary of Commerce. Work began in January 2011.

The report has 30 chapters analyzing climate change impacts on a variety of different sectors and geographic regions. Sectors include: water resources; energy supply and use; transportation; agriculture; forestry; ecosystems and biodiversity; and human health. Mr. Posey served on the writing team for the transportation chapter. The U.S. was divided into eight geographic regions. For analysis purposes, ocean and marine resources and coastal areas were considered as two additional geographic regions. The committee also looked at some issues that cut across sectors. These included rural communities, Native American tribes and urban infrastructure.

A subcommittee reviewed all of the key findings from each chapter, identified those factors that kept emerging and distilled them into 11 draft report findings. The aim is to present these key findings and not debate or defend them. Right now, everything remains subject to revision. The first finding is that global climate is changing, and this apparent across the U.S. in a wide range of observations. The climate change of the last fifty years is due primarily to human activities, primarily the burning of fossil fuels. This was a finding of the previous assessment as well. Some extreme weather and climate events have increased in recent decades, and there is new and stronger evidence that many of these increases are related to human activities. Over the last fifty years different portions of the U.S. have seen an increase in extreme weather events like high temperatures, heavy downpours or more severe droughts. Human-induced climate change is projected to continue and accelerate significantly if emissions of heat-trapping gases (greenhouse gases) continue to increase. Impacts related to climate change are already evident in many sections and are expected to become increasingly challenging across the nation throughout this century and beyond. Climate change threatens human health and well being in may ways including impacts from increased extreme weather events, wildfire, decreased air quality, diseases transmitted by insects, food, and water and threats to mental health. Climate change interacts with socio-economic and other factors to create vulnerabilities. The Assessment identified several vulnerable populations including children, elderly, sick, low income and Native American tribes. Infrastructure across the U.S. is being adversely affected by phenomena associated with climate change, including sea level rise, storm surge, heavy downpours and extreme heat. For example, sea level rise, storm surges and extreme heat can affect roads, rail lines and runways. Reliability of water supplies is being reduced by climate change in a variety of ways that affect ecosystems and livelihoods in many regions, particularly the Southwest, the Great Plains, the Southeast and the islands of the Caribbean and the Pacific, including the state of Hawaii. In many regions climate change increases the likelihood of water shortages and competition for water for different uses and the risk of seasonal shortages. Adverse impacts to crops and livestock over the next 100 years are expected. Over the next 25 years

or so, agriculture sector is projected to be relatively resilient, even though there will be increasing disruptions from extreme heat, drought and heavy downpours. U.S. food security and farm incomes will also depend on how agricultural systems adapt to climate changes in other regions of the world. Natural ecosystems are being directly affected by climate change, including changes in biodiversity and location of species. As a result, the capacity of ecosystems to moderate the consequences of disturbances such as droughts, floods, and severe storms is being diminished. Life in the oceans is changing as ocean waters become warmer and more acidic. Oceans have become 30 percent more acidic as they absorb larger amounts of carbon dioxide from the atmosphere. Planning for adaptation (to address and prepare for impacts) and mitigation (to reduce emissions) activities is increasing, but progress with implementation is limited. It is Mr. Posey's view that anything we can do to make us more resilient, whether directly for climate change or not, has benefit now and in the future.

At the end of the public comment period, NCADAC will spend the next eight to nine months reviewing and responding to comments received. In addition, the National Academy of Science will be coordinating a peer review of the document. The final National Climate Assessment report is to be delivered to the President in December 2013. It is hoped that the Administration will adopt it as the National Climate Assessment early in 2014.

Ms. Andria, American Bottom Conservancy (ABC), asked if the outcome of the National Climate Assessment would be legislation or changes to policies of agencies. Mr. Posey, EWG, said that it is a research project and hope that it will inform the adaption activities at government agencies.

Mr. Wilson, EWG, said that the theme of the March 19 Earth Day Symposium was "Climate Trends: Impacts and Adaptions". Dr. Fishman, professor of meteorology at St. Louis University gave a presentation on climate change at the global and national perspective and Mr. Posey described climate trends in the Midwest. One takeaway was that we can expect drier, hotter summers and wetter winters and rain events will probably be more severe and heavier over a shorter period of time.

III. Attainment Plan for the Herculaneum Lead Area under the 2008 Lead National Ambient Air Quality Standard (NAAQS)
- Joe Winkelmann, Missouri Department of Natural Resources

Purpose of Attainment Demonstration plan is to satisfy the Clean Air Act requirements for the Herculaneum lead non-attainment area under the revised (in 2008) National Ambient Air Quality Standard (NAAQS) for lead. The country's last remaining primary lead smelter is located in Herculaneum in Jefferson County. The smelter processes lead ore concentrate and is now owned and operated by the Doe Run Company. The primary lead smelter has been in operation for 120 years under different ownerships. Lead is both a criteria pollutant and an air toxic. When lead was in gasoline, it was a pollutant of regional concern but now it is more typified by a single source. Missouri is going to demonstrate attainment with the new (2008) standard. This plan was presented

at a public hearing at the February 5, 2013 Missouri Air Conservation Commission (MACC) meeting and is to be adopted at the March 28 MACC meeting.

In October 2008 the lead NAAQS was strengthened from 1.5 micrograms per meter cubed (ug/m^3) to 0.15 ug/m^3. One ug/m^3 is the equivalent of about 20 drops of water in a vessel the size of Busch Stadium. The form of the standard was changed from quarterly (four values in a year) to three month rolling average (12 values in a year).

Missouri has had an extensive role in the mining and smelting of lead. About 80 percent of the country's lead comes through Missouri by either mining, primary smelting or secondary (post consumer recycling) smelting. In addition to the primary smelter in Herculaneum there are two secondary smelters in Missouri which process used car batteries. The Doe Run secondary smelter in Buick is the country's largest lead recycling smelter. The 40 mile long Viburnum Trend (Den, Iron and Reynolds Counties) is the largest lead mine in the world. Due to historic role in lead regulation, the Air Pollution Control Program of the Missouri Department of Natural Resources (MoDNR) has deployed and maintained an extensive air quality monitoring network around theses areas of high lead activity. Monitoring data was used in 2009 to recommend that the area within the Herculaneum city limits and the area around the Buick smelter and the Viburnum Trend be designated as non-attainment. In 2010 these areas were designated as non-attainment and a State Implementation Plan (SIP) is to be prepared for both areas.

Over the years there have been several SIP revisions to bring the Herculaneum area into compliance with the NAAQS. The last previous revision was in 2007. Monitoring data showed that the area had gone below the standard and then went up so the U.S. Environmental Protection Agency (USEPA) issued a SIP call requesting Missouri revise their Herculaneum lead SIP to bring area into compliance. Since 2008, Herculaneum has been in attainment of the 1978 standard. For the three-month rolling average for the 2008 standard ending in November 2010, the maximum monitored concentration was 0.73 ug/m^3. The Clean Air Act requires a SIP be done for a non-attainment area. Section 191 requires a state to submit a non-attainment area SIP and Section 172 sets out the elements a SIP must address. State is to demonstrate that it has: ambient air monitoring and air quality data; conducted an emissions inventory; control strategies and attainment demonstrations (showing emission reduction to be achieved through strategies and technology); analyzed Reasonably Available Control Measures (RACM) and Reasonably Available Control Technology (RACT) control strategies; Reasonable Further Progress will be achieved over the time frame of the SIP; and included contingency measures in case the delineated control measures do not result in attainment of the standard. An air dispersion model (AERMOD) is used to develop the best available estimate of future ambient air concentrations of lead. A base case example using meteorological data is run in order to compare emission estimates to actual monitoring data.

Current operations at the Doe Run smelter in Herculaneum have a lead production limit of 130,000 tons per year. The facility contains a sinter plant where lead ore concentrate (lead sulfide) is converted to lead sinter at high temperatures. Sinter and coke is fed into the blast furnace to yield molten lead and slag. The molten lead is fed into kettles and delivered to the refinery to be placed in molds for further processing. At the strip mill the lead alloy is cast into long strips based on

customer specifications. As part of a 2011 Federal Consent Judgement decree affecting several Doe Run facilities, Doe Run has agreed to shut down the Herculaneum smelting operations at the sinter plant by December 31, 2013. The blast furnace is to be shut down by April 30, 2014.

In addition to the Consent Judgement Decree shut down, for several years Doe Run had invested in research and development of a water/acid based electrolysis project to refine lead ore. Doe Run is a part owner of the technology and ran a pilot plant in Boss MO for several years. Since this process would not be fire based, it would have near zero emissions and none of the by-products of smelting. However, in June 2012 for independent business reasons, Doe Run made the decision to not go ahead and build this new technology facility at the Herculaneum site. After April 2014, there will not be a primary lead smelter in the U.S. and the only source of domestic lead will be from recycling operations. Lead will have to be sent out of the country for processing.

The U.S. Department of Energy (DOE) has identified lead as a strategic metal and as the cheapest way to store energy for wind turbine technology and large solar technology. Lead is 40 times cheaper than lithium. Lithium works in small applications. For practical purposes lithium is not recyclable and there is little production in the U.S. The lead industry is looking for DOE grants to develop the fourth generation of lead storage technology to reduce the weight of batteries.

Mr. Wilson, EWG, observed that China does not have stringent air quality regulations but we require U.S. industries to deal with it. We need a global trade agreement, to protect the global environment. Mr. Winkelmann, MoDNR, said that the U.S. lead industry is concerned that if go ahead with this costly new technology that China would start up small scale primary smelters and flood the market with cheap processed lead. Then the lead industry would not be able to recoup their investment. There is a primary smelter in New Brunswick Canada. The Canadian lead standard is 30 ug/m^3 which is 200 times higher than the U.S. standard. Ms. Andria, ABC, asked how lead from recycled batteries is controlled. Mr. Winkelmann, MoDNR, said that lead from recycling is regulated under MACT and newly revised air toxic standard.

A lead SIP has also been developed for the secondary smelter at Buick. Strategies include the complete enclosure of the facility and using negative air pressure to keep lead emissions inside before they become fugitive. Doe Run is also going to do process changes and install dry scrubber before the baghouse. It will filter out lead than sulfur dioxide (SO_2) emissions.

Ms. Andria, ABC, asked if there were any lead monitors located between Herculaneum and the City of St. Louis. Mr. Winkelmann, MoDNR, replied that the monitor was sited in St. Louis based on population. Now that there is no lead in gasoline, lead levels in St. Louis are at the minimum detectable level and is just a fraction of the 0.15 ug/m^3 standard. The extent of lead influence is about 2.5 miles from the stack. Ms. Andria, ABC, then asked if there were any Illinois residences in that 2.5 mile area. Mr. Winkelmann, MoDNR, said that the Illinois side is typified by flood plain and agriculture. The prevailing wind direction is to the northwest which does not indicate that there would be much transport to that area.

Even though Doe Run is going to shut down the primary smelter operation at Herculaneum, the company wants the flexibility to operate the strip mill and to operate the refinery building as a re-melter (re-melt, casting ingots into other forms and alloy mixing). In March 2012 Doe Run entered into negotiations with a developer/environmental service company to sell much of its Herculaneum property for redevelopment. Currently, no decisions have been made on future land use/redevelopment.

All of the provisions from previous Consent Judgement decrees and SIPs still remain in force. The strip mill production limit now will be 3,750 tons of cast lead per three-month rolling average. Doe Run is currently producing 130,000 tons of pure lead. For the re-melter operation, Baghouses 8 and 9 will each be limited to 3.5 pounds of emissions per day. With the elimination of the smelter, Baghouse 7 will be eliminated. In the plan, the current fence line of the Herculaneum facility was modeled with model receptors set every 50 meters. Output from the air dispersion model showed low lead levels at the current fence line. To see the effect of the shutdown, more refined modeling was performed by locating receptors, at ten meter spacing, in areas inside the fence line which are currently non-ambient. In this way, can determine extent of ambient/non-ambient footprint (or attainment/non-attainment zone). This will give Doe Run the flexibility to move in the fence line as a result of the shut down and allow for potential redevelopment of area (after clean-up concluded). Doe Run has to notify MoDNR of any fence line change.

This SIP is made legally enforceable through a 2013 Consent Judgement to be lodged in Jefferson County. Consensus has been reached between MoDNR, Doe Run and the Attorney General's office. Permanent and enforceable actions include: new control measures and products; production and emission limits; required practices and procedures; contingency measures; penalty provisions; and dispute resolution provisions.

Mr. Klepper, Missouri Coalition for the Environment, asked how much of a role the legislative and the environmental community has had in developing this SIP. Mr. Winkelmann, MoDNR, said that as project manager, he has had limited contact with elected officials. During the development of designation recommendations, Jefferson County wanted to make sure that MoDNR defined the non-attainment area as appropriately as possible. The environmental community is on board with this lead SIP. They have had an active role in past SIP revisions and consent decrees. Their input is welcome. The environmental community did not present comments at the February public hearing.

Ms. Andria, ABC, asked if there had been any negative comments from Herculaneum residents with children. Mr. Winkelmann, MoDNR, said there were no comments. He observed that Herculaneum has been involved in smelting and mining of lead since its inception. There are new subdivisions with children west of I-55 which are out of the area of impact. The old town part of Herculaneum does not have that many young children. This may be result of the voluntary buy-back program from five to seven years ago.

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

At the January 2013 St. Louis Auto Show, the Eco City display of alternative fuel vehicles took up the majority of floor space in the Edward Jones Dome at America's Center. Approximately 3,000 people participated in the ride and drive program.

In February Clean Cities moved into a new office in Kirkwood. Clean Cities has received a grant to model how alternative fueled vehicles can help to reduce emissions and improve air quality. EWG will have a role in this project. Last year, activities in the St. Louis (MO-IL) area and new alternative technologies help to displace more than 10 million gallons of gasoline/diesel fuel. This is equivalent to 125,000 tons of greenhouse gas emissions. This 2012 report will be submitted to DOE. In October 2013 Clean Cities will participate in the NAPA Car Show at Gateway International Speedway in Illinois.

On April 15, Mr. Herdler will be in Jefferson City to talk with the House Republican Study Group. Legislation has been proposed to raise the motor fuel tag (sticker) tax for alternative fuel vehicles (from cars to large trucks). The tag is supposed to cover the motor fuel tax ($0.17 gallon) that would be paid if a vehicle would be run on conventional fuel. For a big truck the sticker costs $1,000. This amount is equivalent to 5,780 gallons of diesel fuel used/purchased in a year. It has been proposed to increase the tag tax for all alternative fuel vehicles. It is proposed to raise the large truck tag tax to $1,880. The problem with this proposal is that $1,880 is the equivalent is 10,000 gallons of diesel fuel. An operation like Allied Waste might burn that amount in a year operating trash trucks but for a city truck or very small fleet, they might never reach 10,000 gallons. In Mr. Herdler's view, this proposed increase would act as a disincentive, for the purchase of alternative fuel vehicles.

V. Update Activities of the States
- Joe Winkelmann, Missouri Department of Natural Resources
- David Bloomberg, Mike Rogers, Illinois Environmental Protection Agency

Mr. Winkelmann, MoDNR, announced that RegForm will hold an Air Compliance Seminar on March 27 in Columbia, MO.

At the March 28 MACC meeting the Herculaneum and Buick lead State Implementation Plans (SIPs) are to be adopted. There will be a public hearing on the proposed revision to the SO_2 boundary recommendations. Green County (Springfield) was recently certified to have clean air quality data for 2010-2012. MoDNR is recommending that Green County not be included in non-attainment area. The second hearing will be on the proposed nitrogen dioxide (NO_2) infrastructure SIP.

Mr. Bloomberg, Illinois EPA, announced that the ownership of several coal-fired power plants had changed in Illinois. Ameren has sold their five coal-fired power plants to Dynegy and Dominion sold several of their plants to a private energy fund. Concerning proposed SO_2 non-attainment areas, Ameren has made comments concerning their status in one of the two areas in northern Illinois.

Illinois EPA is moving forward with rule making for the Granite City lead non-attainment area. Draft rules should be presented to the Illinois Pollution Control Board (IPCB) in the next few months. The rule making has been complicated in that the rule is to appear as general applicability but with special geographic area of interest (not identifying specific facility). When Illinois EPA prepares the SO_2 rule, the affected facilities will be named.

Mr. Rogers, Illinois EPA, said that the proposed Stage II Vapor Recovery program requirements for the Chicago area have been accepted by the IPCB. No schedule for public hearings has yet been established. With this rule, effective January 1, 2014, Illinois EPA would stop the requirement for the installation of Stage II equipment at service stations and allow certain stations to start decommissioning at that point in time. Service stations still have to operate their Stage II systems until decommissioning occurs. Meeting the January 2014 deadline depends on action by the IPCB.

Mr. Winkelmann, MoDNR, said that USEPA had verified Missouri's technical support document justifying the removal of Stage II Vapor Recovery program controls. However, there have been some changes and additional documentation will be needed and presented to USEPA. These changes were discussed at the March 22 stakeholders meeting. Changes to the program are moving forward based on the USEPA agreement on the technical support document. Ms. Donegan, St. Louis County Department of Health, said that service stations began decommissioning their systems on March 15. In order to keep their permits up to date with the State and/or St. Louis County, the stations have to be retested to show that Stage I requirements are being satisfied. This testing is time consuming.

VI. Other Business

Ms. Andria, ABC, announced that USEPA is proposing to issue a Title V operating permit for the Veolia hazardous waste incinerator in Sauget IL. Veolia is proposing to install continuous emissions monitoring system (CEMS) on one unit for one year. In the past, Veolia has had a number of violations including not accurately characterizing waste to be incinerated. USEPA is accepting comments until April 1, 2013. The ABC recommended that CEMS be installed on all three units at the facility. If a system is put on one unit, there is potential that other units without the continuous emissions monitoring system could be used to incinerate hazardous waste. A while ago ABC petitioned USEPA with objections to the Title V operating permit for Granite City Works US Steel issued by Illinois EPA. USEPA accepted the objections and directed Illinois EPA to make changes and re-submit. Illinois EPA has issued a revised permit and ABC has filed comments. The outcome is pending. Ms. Andria, ABC, announced that USEPA has published a proposed rule to amend regulations concerning excessive emissions during periods of start up, shut down or malfunction at a facility. According to Ms. Andria, Illinois companies consider this rule a "get out of jail free card" when there are problems at their facilities. Last week Maxine Lipeles of Washington University Environmental Law Clinic presented comments on behalf of ABC at a public hearing in Washington, D.C. The comment period is still open.

The next meeting of the AQAC was scheduled for Tuesday, April 26, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY June 25, 2013
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 April 23, 2013 Meeting

II. **Air Quality and Global Climate Change**
- Mark Hildebrandt, Ph.D., Southern Illinois University Edwardsville

III. **Near-Roadway NO_2 Monitoring Network**
- Stephen Hall, Missouri Department of Natural Resources

IV. **RideFinder's School Pool Initiative**
- Laura Barton, Ride Finders

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

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

VII. **Other Business** - Next meeting date July 30, 2013

VIII. **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, April 23, 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
Bruce Carmitchel - Illinois Department of Transportation
David Bloomberg - Illinois Environmental Protection Agency
Susannah Fuchs - American Lung Association

Others Present:
Jim Stack - Illinois Department of Transportation, District 8
Joe Gray - Illinois Department of Transportation, District 8
Amy Funk - Metro East Community Air Project
Bob Klepper - Missouri Coalition for the Environment
Kathy Andria - American Bottom Conservancy
Bryan Kresak - U.S. Steel
Christopher Schmidt - Illinois Department of Transportation
Kelley Belina - St. Louis University
Jack Fishman - St. Louis University
Jennifer Meyer - St. Clair County Health Department

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). Ms. Andria, American Bottom Conservancy (ABC), asked that the March minutes be revised to state that USEPA is proposing to require the Veolia hazardous waste incinerator in Sauget to install a multi-metals continuous emissions monitoring system (CEMS) on one unit for one year. ABC recommended that CEMS be installed on all three units at the facility as if CEMS is put on one unit, there is potential that other units could be used to exceed the limits. Corrections to the minutes of the March 26, 2013 AQAC meeting were approved as circulated.

II. One STL: Many Communities, One Future - Regional Plan for Sustainable Development - David Wilson, East-West Gateway Council of Governments

In October 2010 EWG and its Consortium partners received a $4.78 million Regional Sustainable Community Planning grants from the U.S. Department of Housing and Urban Development (HUD). Over 180 people have participated in four standing committees and associated subcommittees and work groups. This is one of the most ambitious planning efforts undertaken by EWG in that it has to be completed in a 2 1/2 year time span. Starting in 2012, the partnership has hosted 33 public meetings in 11 different Community Planning Areas in the region. These CPAs were chosen based on level of interest of local government officials and was an attempt to have a broad cross section of the different types of communities in the region. The plan is to be called "One STL: Many Communities, One Future". One STL advances a prosperous, healthy and vibrant future for St. Louis communities and the entire region including economic development in the context of clean air and water, wise land use and energy efficiency. The deadline for the plan to be completed is December 13, 2013. After this date, implementation is to start.

The draft plan is to be completed by the end of July. Open houses will be held in August and September. In September, the draft will be presented to the EWG Board of Directors. The Board is to adopt the final plan in October. The morning of the November 2013 EWG Annual Meeting, there will be several workshops concerning OneSTL.

The Consortium partners have been identifying what can be addressed at a regional scale and working to build support for a regional approach. OneSTL can set a comprehensive but flexible framework for voluntary participation at various levels by local municipalities. It is a voluntary plan and do not have the authority to mandate anything. It will delineate policies, projects, partners and ways to track progress. The plan will spell out: vision; value statements; approach and guiding principles; goals, objectives and strategies; and implementation plan. Right now, the implementation plan will identify things that EWG will be able to do. Still to determine is to what degree the plan identifies elements of implementation that may be performed by others. Once adopted, will need to keep strengthening leadership and provide long term viability.

The St. Louis region is many connected communities at the confluence of two great rivers, sharing one prosperous, healthy, and vibrant future. Together we will build an inclusive and opportunity-rich region that embraces our unique heritage, geography, and diverse communities. Highlighted regional positives include: central location in the Midwest and the nation as key to building a prosperous future in the global economy; rivers as the foundation of our rich agricultural productivity, biodiversity, geography and trade; individual and interdependent communities; and diverse, educated and talented population. For now and future generations want to: create high quality, healthy communities for all residents; maintain a high quality environment; and support a robust economy and opportunities for all people in the region.

Themes were heard at the public meetings were used to formulate OneSTL goals. Regional goals address interest for: greater collaboration and connectedness; prosperous or resilient economy; everyone in region being reached with that prosperity; acknowledging uniqueness/distinctive

communities; education; green (air, water, land use); efficient (energy and resiliency); and preparedness (refers to safety: from crime; on street for pedestrian; from flood risk). Copies of the draft OneSTL goals and objectives were distributed.

The Applied Research Consortium (collaboration of St. Louis University, University of Missouri-St. Louis and Southern Illinois University at Edwardsville) is developing a regional web-based data sharing portal (http://stlousdata.org). The data portal contains GIS-based regional mapping data provided by EWG and local GIS users can share their data. A 30 member volunteer work group has assembled a web-based tool kit containing information on 100 different management practices that a local government could utilize.

Mr. Zlatic, St. Louis County Department of Health, asked who was the point of contact for St. Louis County. Mr. Wilson, EWG, said that the staff from the Department of Planning have been actively involved in this effort and there were four CPAs in the County. The Department of Planning led a study on affordable housing and prepared a document on the review of codes, ordinances and zoning to improve sustainability.

Mr. Coulson, EWG, asked how many CPAs there were. Mr. Wilson, EWG, said there were 11 and they were really more like community engagement areas as did not have the resources to do specific planning at that level. Three public meetings were held in each area. Five communities from these CPAs are going to participate in a pilot study to look at their codes and ordinances in the context of sustainability. They are: O'Fallon, MO; Bellefontaine Neighbors; Alton; Belleville; and Festus. They can act as models for other communities. Mr. Coulson, EWG, asked if the CPA approach diluted the original concept of the project concerning redensifying the urban core. Mr. Wilson, EWG, said that all communities in the region can do a lot to make their own core more walkable and a more attractive place. Communities that are going to be successful over the next 25 to 50 years are those that think pro-actively about creating opportunities to densify their core and make it more walkable.

Ms. Funk, Metro East Community Air Project (MECAP), asked if the study of Transit Oriented Development (TOD) around MetroLink stations would be part of the final plan. Mr. Wilson, EWG, said that this broad, regional survey is part of OneSTL and is funded through the HUD grant. The lead consultant team has selected five stations for an in-depth study of the potential for TOD. In addition, the City of St. Louis is conducting a TOD study around three possible station locations.

Mr. Winkelmann, Missouri Department of Natural Resources (MoDNR), observed that in other parts of Missouri voluntary efforts, including public awareness campaigns, had been effective in meeting air quality objectives. At this level, it is more about giving people more access to different choices in transportation. Choices could happen by building around transit stations, encouraging job development around transit stations and by creating more walkable/bikeable neighborhoods. In this way, address safety and accessibility and serves to reduce auto emissions. Ms. Fuchs, American Lung Association (ALA), said that for last 15 years, her organization, EWG, the Missouri Department of Transportation (MoDOT) and others have been involved in local public awareness campaigns to inform residents about the voluntary actions they can take. Right now the ALA is working with MECAP and RideFinders on a idle reduction campaign.

Ms. Andria, ABC, asked that, in light of climate change and the intense weather events, are there any communities willing to limit development in the floodplain. Mr. Wilson, EWG, said that one item mandated by HUD and USEPA to be addressed in the plan is the issue of climate impact and planning for potential climate change. In every CPA, flooding was identified as an issue.

III. St. Louis University Ozone Garden Project
- Jack Fishman, Ph.D., St. Louis University
- Kelly Belina, St. Louis University

The Ozone Garden Project is an effort to create public awareness of ground level ozone pollution and its effects on plants. Dr. Fishman brought the concept to the St. Louis University (SLU) Center for Environmental Sciences (CES) from his work at the National Aeronautic and Space Administration (NASA) . Ms. Belina is the project manager. Last summer an ozone garden was planted near the McDonnell Planetarium at the St. Louis Science Center in Forest Park. The garden contains wild and agricultural plants that are sensitive to ground level ozone pollution. It also has a weather station and an ozone monitor. The ozone monitor and the weather station were obtained from the GO_3 Project in Boulder CO. Hourly ozone levels and weather data is wirelessly transmitted to equipment located inside the Planetarium's communication room. Data on ozone, weather and physical leaf damage is collected and research conducted. Eventually, the aim is to establish a network of ozone gardens around St. Louis area and in other locations.

The concept for ozone gardens came from a 2011 NASA publication entitled "Ozone-Induced Foliar Injury Field Guide. There is an ozone garden in the Great Smokey Mountains National Park containing plants native to the Smokies and another at the Air Quality Learning Center at the Penn State Arboretum. The U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) branches located at North Carolina State University and the University of Illinois are conducting research on crops and ozone.

Ozone is taken in through the pores (stomata) on the leaves of plants. Ozone reacts with other chemicals and creates reactive molecules which can cause a variety of problems. Plants begin to show symptoms at ozone levels of 40 parts per billion (ppb). Plants become susceptible to diseases and insects and decrease their ability to produce and store food. At high ozone levels, plants experience reduced reproductive capabilities and decrease in yield in crop species. At the end of the ozone season, the cumulative damage to plants can be seen. For example, the milkweed plant is ozone sensitive. Monarch butterflies lay their eggs on milkweed leaves and the caterpillars feed on the leaves. Decreasing the amount of healthy milkweed will affect monarch butterfly population. In 2008 the Royal Society estimated the cost to global agriculture to be between $14-26 billion. Research has shown that the cost of ozone to the soybean farmers in the U.S. likely exceeds $1 billion. Dr. Fishman, SLU, added that ozone levels also affect pine forests which impacts the lumber and paper industry.

Last summer was hot and dry (low humidity) with very high ozone levels. Work had to be done to the irrigation system and to manage pests. Overall, everything grew well. Throughout the summer ozone levels were above 40 ppb and average daily maximum ranged between 70-80 ppb. In

September began to see leaf damage on the common milkweed and the ozone sensitive snap beans. The sensitive beans lost more leaves than the ozone tolerant snap beans.

In 2013 plan to add two more ozone gardens at Grant's Farm in St. Louis County and at Southwestern Illinois College in Belleville. The same plant species and monitoring equipment will be at all three sites. New plants include ozone sensitive and ozone tolerant soybeans (seeds donated by University of Illinois researcher), potatoes and yellow crownbeard.

Ms. Andria, ABC, asked what was the cost of the ozone garden. Ms. Belina, SLU, said that the biggest cost was around $6,000 for the GO_3 Project ozone monitor and weather station. Cost for site preparation, soil, mulch and fencing depends on the site. The seeds were donated. In the future hope to collect seeds from the perennial plants and distribute them to other ozone gardens. Plan to replicate the informative signs prepared by the Science Center and install at the other sites.

IV. St. Louis Regional Clean Air Partnership 2013 Activities
- Susannah Fuchs, American Lung Association

On Wednesday, the national American Lung Association will release its State of the Air report. Every county in the U.S. is graded on their ozone and PM2.5 levels based on 2009-2011 monitoring data. The findings are embargoed until tomorrow. For St. Louis, there have been improvements but need to keep doing what are doing and to do more.

The St. Louis Regional Clean Air Partnership (SLRCAP) is focused on voluntary behavior changes on an ongoing basis. Originally, SLRCAP concentrated on voluntary efforts to "shave the peaks" on high ozone days. For 2013, the emphasis is on collaboration and trying to work with existing programs of partner agencies, like St. Louis Earth Day, MECAP and RideFinders. SLRCAP is working with MECAP on their annual Metro East Air Quality Forum. Plan to hold a Missouri-focus forum as part of the September Green Homes and Great Health Festival at the Missouri Botanical Garden. SLRCAP is working with the St. Louis Chamber on their Green Business Challenge and will advise new participants on steps they can take to improve air quality. SLRCAP has generic idle reduction street signs to distribute to those interested. Local quality forecasting begins May 1. Media partner KMOV prepares the forecast and the ALA distributes it to media and interested individuals and groups.

SLRCAP is working with the local U.S. Green Building Council on their Green School Quest initiative. SLRCAP continues to prepare and distribute end of school year "backpack" letters (either paper or electronic) to go home with elementary students describing simple steps parents can take to improve air quality. Approximately 15,000 school children in the metropolitan area receive these letters. SLRCAP is also sponsoring a children's bookmark contest.

On May 30, Ms. Fuchs will be participating in the Citizens for Modern Transit's Great Race to promote different modes of transportation. Team Transit, Team Bike, Team Car Share and Team Carpool will race from the Old Post Office in St. Louis to the Clayton MetroLink station.

V. Update Activities of the States
- David Bloomberg, Illinois Environmental Protection Agency
- Joe Winkelmann, Missouri Department of Natural Resources

In the next few weeks Illinois EPA will submit to USEPA Region 5 a draft lead rule for Mayco Industries in Granite City. Mayco has already submitted a construction permit request for the installation of and modification to the capture and control system at the facility so it will be in compliance. They will have to resubmit a modified permit. The rule will be taken to the Illinois Pollution Control Board (IPCB) shortly. The IPCB has scheduled two hearings on the proposed Stage II Vapor Recovery requirements for the Chicago area. The first is on May 8 at the IPCB offices in Springfield and the second is on June 5 at the Michael A. Bilandic Building in Chicago. Information on this docket (R2013-018) is available at the IPCB website (www.ipcb.state.il.us).

Ms. Andria, ABC, asked what Illinois EPA was going to do to assure that there will not be any monitor shutdowns like last year. Mr. Bloomberg, Illinois EPA, said that he would research this. Ms. Lawrence, EWG, said that in 2012 the Alton monitor was offline for 58 days due to equipment vandalism. She added that on April 19 the West Alton monitor was taken offline due to the threat of Mississippi River flooding. There was an extended discussion on monitor siting requirements and the challenges state air agencies face.

The Missouri Air Conservation Commission (MACC) is a seven member executive board that sets the direction of air pollution control in the State of Missouri, adopts rules and approves plan. Currently there are only four members which makes it challenging to have a quorum and keep plans and rules on schedule. Mr. Winkelmann said that if any Missouri residents were interested, they should nominate themselves to the Governor. Ms. Fuchs, ALA, related the experience of a person who was nominated for MACC. When it became apparent that he was not going to be approved by the State Senate, he withdrew his nomination. She observed that it is a very political process. Mr. Winkelmann, MoDNR, added that there is a Missouri statue which states that if an nominated individual is not approved by the State Senate, then that individual is banned for life from serving on any commission in Missouri. So if there is a problem, the Governor's office will ask that person to withdraw their name from consideration.

The next MACC meeting is April 25 in Joplin. The MACC is to adopt revisions to boundary recommendations for the sulfur dioxide (SO_2) standard. Based on the most recent data, Greene County is no longer in violation of the one hour SO_2 standard and should be designated as unclassifiable/attainment. Up for adoption is the Section 110 (of Clean Air Act) Infrastructure State Implementation Plan (SIP) for the 2010 nitrogen dioxide (NO_2) standard. A Section 110 SIP is administrative and demonstrates the State's ability and authority to implement, enforce and maintain the standard throughout that portion of the state that is not classified as non-attainment.

At the May 30 MACC meeting there will be a public hearing on several rules which are out on public notice. There is a proposed revision to the statewide New Source Review (NSR) rule/construction permit to make the state rule in line with USEPA's revision for plant wide applicability limit for greenhouse gas emissions and go along with Step 3 of the greenhouse gas tailoring rule. It will also

remove the USEPA's grandfather provision allowing certain sources to use coarse PM as a surrogate from fine PM during the transition period to $PM_{2.5}$ permitting. Another public hearing topic will be a rule clarification on the control of sulfur emissions from stationary boilers, specifically for brewery industry. There will be a hearing on proposal to rescind an expired rule on control of oxides of nitrogen (NO_x) emissions from upwind sources. Another item will be an amendment to a statewide rule on the control of PM emissions from industrial processes which adds a hierarchy of rule compliance methods. A proposed inventory fee amendment to the Reporting Emission Data, Emissions Fees and Process Information rule is up for hearing. State statute sets the inventory fee structure and requires that the MACC approve it every three years. MoDNR is proposing that the fee remain the same. A rule up for public hearing is a clarification to the Control of NO_x Emissions from Large Stationary Internal Combustion Engines rule to correct the words "a kiln" to "an engine" in subsection (3)(F). Up for public hearing will be revision to Section 110 infrastructure SIP for ozone and revision to Section 110 infrastructure SIP for SO_2. These revisions are administrative in nature.

VI. Other Business

On April 27 there will be a Clean Air Fair at the Greater Mt. Caramel Missionary Baptist Church in the City of St. Louis.

Ms. Funk, MECAP, announced that planning is underway for the third Metro East Air and Health Forum for October 18 at the Caseyville Township Center. If there are suggestions for topics or speakers, contact Ms. Funk at amyfunk@illinois.edu. She introduced Jennifer Meyer who is the Environmental Director at the St. Clair County Department of Public Health.

Mr. Zlatic, St. Louis County, announced that St. Louis County opened a household hazardous waste collection facility at the Metropolitan St. Louis Sewer District (MSD) Lemay wastewater plant. Residents of the City, St. Louis County and Jefferson County can bring in up to 50 pounds of waste free of charge. The Missouri legislature has been debating the elimination of funding for solid waste management districts. . Mr. Zlatic's staff is assembling information on administrative costs/percentages for districts and will present this information to the State Senator leading this effort. He added that the National Association of Clean Air Agencies (local and state air pollution agencies) is holding their Spring meeting in St. Louis on May 6-8.

Ms. Andria, ABC, announced that USEPA has extended the comment period until May on the proposed rule to amend regulations concerning excessive emissions during periods of start up, shut down or malfunction at a facility.

The next meeting of the AQAC was scheduled for June 25, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY July 30, 2013
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 June 25, 2013 Meeting

II. **Boundary Designation for the 2012 Annual PM2.5 National Ambient Air Quality Standards**
- Mark Leath, Missouri Department of Natural Resources

III. **NASA's Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys: The St. Louis Connection**
- Jack Fishman, Ph.D., St. Louis University

IV. **Current Activities of Metro East Community Air Project**
- Amy Funk, Metro East Community Air Project

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

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

VII. **Other Business** - Next meeting date September 24, 2013

VIII. **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, June 25, 2013
East-West Gateway Board Room

Members Present:
Michael Coulson, Chair, East-West Gateway Council of Governments
Wendy Vit - Missouri Department of Natural Resources
Mike Henderson - Missouri Department of Transportation
Kathrina Donegan - St. Louis County Air Pollution Control Program
Betsy Tracy - Federal Highway Administration, IL
Christopher Schmidt - Illinois Department of Transportation
David Bloomberg - Illinois Environmental Protection Agency
Susannah Fuchs - American Lung Association
Jack Fishman - St. Louis University

Others Present:
Jim Stack - Illinois Department of Transportation, District 8
Amy Funk - Metro East Community Air Project
Bob Klepper - Missouri Coalition for the Environment
Kathy Andria - American Bottom Conservancy
Bryan Kresak - U.S. Steel
Meredith Klekotka- Trailnet
Jennifer Meyer - St. Clair County Health Department
David Shanks - Boeing
Wesley Stephen - Missouri Department of Transportation
Stephen Hall - Missouri Department of Natural Resources
Joe Winkelmann - Missouri Department of Natural Resources
Mark Hildebrandt - Southern Illinois University Edwardsville
Crystal Converse - St. Louis Regional Clean Cities
Jason Braxton - U.S. Steel
Mike Alesandrini - URS
Joe Wright - RideFinders

Staff:
John Posey Carol Lawrence Brendan Ehlmann

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 April 23, 2013 AQAC meeting were approved as circulated.

II. Air Quality and Global Climate Change
- Mark Hildebrandt, Ph.D., Southern Illinois University Edwardsville

Mr. Coulson, EWG, said that Dr. Hildebrandt has been at Southern Illinois University Edwardsville (SIUE) since 1999. He has been recognized by the U.S. Department of State as an expert on climate change. In 2006 he was a Fulbright Scholar and studied global climate change and air quality in Nepal, India and Pakistan. Dr. Hildebrandt, SIUE, began his presentation by saying that he considered himself a "tough sell" on global climate change. For his post-graduate work he had studied under a global warming cynic at Arizona State University in order to learn and understand both sides of the conversation.

The Intergovernmental Panel on Climate Change (IPCC) is an international scientific body under the auspices of the United Nations, In 2007 the IPCC issued a statement that by the end of the century, the mean global temperature would rise 1.8 - 11.7^{o}F. The current average global temperature is 57°F. This means that by 2100, on average the mean temperature will go up to 60°F or 70°F. These numbers are subject to revision. The low projection would occur if would begin to reduce greenhouse gas emissions now. The high projection would occur if business as usual would continue. Between these two extremes, the middle of the road projection is probably where would be heading if begin to mitigate our actions. The IPCC also projected that by 2100 the mean sea level is expected to rise at least one meter (39 inches).

The greenhouse gases contributing to global climate change include: carbon dioxide (CO_2); water vapor; methane; ozone; nitrous oxide; and chlorofluorocarbons (CFCs). CFCs are largely anthropogenic (associated with human activity) while the rest are naturally occurring. The most complete global information is on CO_2, so that is the gas most discussed in relation to global climate change. Methane has been more closely monitored globally in the last 15 years and is a more powerful greenhouse gas than originally thought. Approximately 27 percent of methane is produced in wetland areas and areas with rice production, i.e., southeast Asia. As population increases globally and food demand increases, pollutant levels could be exacerbated. The theory is that if more greenhouse gases are trapped in the atmosphere, more infrared radiation will be absorbed and re-emitted in the lower atmosphere and global temperature is going to go up.

According to data collected at the Mauna Loa observatory by National Oceanic and Atmospheric Administration (NOAA), since 1958 global CO_2 levels have increased as result of natural cycles, deforestation and industrialization. Since 1960 the global mean annual average temperature over land and over sea is on the increase. A decrease in the extent of arctic sea ice has been observed. Also, the oldest sea ice is now around five years old instead of ten.

Using proxy and collected data, CO_2 levels and mean global temperatures have been estimated from 1000 onward. CO_2 concentrations were steady until the industrial revolution in the 19th century. Rates at which fossil fuels have been burned and CO_2 emissions appears to be doubling over time. In 1850, CO_2 emissions were ½ billion metric tons. Emissions had doubled by 1900 and doubled again to two billion metric tons by 1950. In the early 1970s CO_2 emissions were four billion tons and by the start of the 21st century it was eight billion metric tons. Since 1950 global fossil carbon

emissions have increased. Temperatures held relatively consistent, even cool, until the industrial revolution. Since then global temperature have increased to where there appears to be a statistical association between CO_2 emissions and global temperature.

Consensus in the scientific community is that climate change is taking place. Some of this change is natural such as the recovery from period known as the "little ice age" ending in 1850. Some of this rise in temperature is anthropogenic. What climatologists and scientists will argue is about how much human beings are responsible for. There is concern about global climate change is that in terms of putting so much CO_2 emissions into the earth's atmosphere at once is that it will not be able to absorb them. Climatically, it could throw the earth off the cliff. In geologic time, the earth will come back. But whether humans are around or not is another question.

The IPCC has projected that for their middle of the road scenario to occur global CO_2 emission levels would need to be stabilized at 450 parts per million (ppm) by 2020. By 2100 temperature would be projected to increase 3.8oF and sea level would rise less than two feet. Recent data from the Mauna Loa Observatory shows that the May 2013 average monthly CO_2 level was 399 ppm.

Dr. Hildebrandt talked about his research on air pollution in southeast and east Asia. A growing phenomena is "Asian Brown Cloud" referring to a brown haze over southeast and east Asia. Population is increasing in these areas and industrialization is growing. Approximately 75 percent of the cloud is from anthropogenic sources. It blocks out sunlight, increasing greenhouse gas emissions and air pollution is starting to change temperature patterns and precipitation patterns, increasing the intensity of monsoons. Research has shown that the pollutants in the "Asian Brown Cloud" affect Asia and can travel around the globe in less than a week. For the longest time the U.S. was the largest emitter of CO_2. China is now number one. In the next ten years India will be in second place. Most likely will have the equivalent of three U.S. putting CO_2 emissions into the earth's atmosphere.

From 1900 on the U.S. mean temperature appears to be on the increase. In many areas there is a relationship between population growth and rising temperatures, especially urban locations with "heat island" effect. However, rising mean temperatures have been observed in remote rural areas away from urban influence. For the St. Louis area (1961-2010), overall trend is that mean temperature is going up. In the U.S. warming temperatures are occurring in the winter. Human beings have an influence on different climate variables. Research done in New England showed there is a seven-day cycle for ozone and CO_2 levels and precipitation. Cycle can be attributed to human activity associated with the work week. The 1971-1975 Metro Mix program in St. Louis region showed that air quality does affect weather. There are more thunderstorm days in the Metro East than to the west of St. Louis. Looking at the St. Louis region's 2012 ozone season, observed a weekly cycle with more exceedances on Thursdays and Fridays.

For St. Louis, the IPCC middle of road scenario estimates that in the next decade, the average annual temperature is expected to rise 3.6 - 4.5^{o}F. By the end of the century, the temperature is projected to rise 7.2 - 9.0^{o}F. If this happens, the climate here will be like Houston, TX. There are some model projections that do have Gulf of Mexico currents warming enough so that if a hurricane could hit the

Gulf Coast the winds could still be sustained and strong enough that they would still be Category 3 when they hit St. Louis.

In the St. Louis area, sectors impacted by climate change would include: transportation, particularly shipping; tourism and recreation; fisheries; and industry and energy. There will be an increase in problems with water quality and supply. Air quality is forecasted to become worse worldwide. It will be necessary to develop a plan to deal with radical changes in all aspects of life and invest in countermeasures. For the St. Louis area will have to consider alternative methods of power and agriculture such as increased use of irrigation. Instead of just considering mitigation will have to consider adaptation.

Ms. Andria, American Bottom Conservancy (ABC), stated that rising river levels in St. Louis area needs to be addressed as levees were not built with climate change in mind. Dr. Hildebrandt, SIUE, said that some rivers will rise and some will not. The Mississippi River level and the Great Lakes levels are forecast under climate change scenarios to be different from where they are now. Mr. Posey, EWG, said that the most recent flooding risk projections from NOAA show an increase in precipitation for the Upper Mississippi, especially in the Winter and Spring. Possibility of flooding may be increasing.

Mr. Klepper, Missouri Coalition for the Environment, observed this is a global problem and requires global policy. He asked if the speaker was optimistic or pessimistic. Dr. Hildebrandt, SIUE, said that he wants to be optimistic. The international community has to get on board. Think that climate is changing and that the IPCC worst case scenarios are over-stated. In his opinion, the more industrialized world will adapt.

III. St. Louis Monitoring Network Overview and Near-Roadway Ambient Air Monitoring
- Stephen Hall, Missouri Department of Natural Resources

MoDNR had to temporarily suspend monitoring at the West Alton site due to the potential for flooding. The site is located in the floodplain between the Missouri and Mississippi Rivers.

Federal regulations (40 CFR 58 Appendix D) lay out the specific criteria for the way the an ambient air monitoring network is to be designed. Monitor network design is pollutant specific. Network design criteria has changed since the network was established in the 1970s. Now, monitoring network requirements are based on population of Core Based Statistical Area (CBSA). For St. Louis region, the CBSA consists of 16 counties in Missouri and Illinois. St. Louis has monitoring requirements based on the National Core multi-pollutant (including air toxics) monitoring network (NCore). Some of the monitoring sites date to the 1960s. In some cases the number of minimum required monitors has been reduced. States at one time had more flexibility in moving monitors but changes to federal regulations in 2006 changed that. It is difficult to obtain U.S. Environmental Protection Agency (USEPA) approval to move/discontinue required State or Local Air Monitoring Stations (SLAMS) sites. For the NAAQS/public health air pollutants, over the long term, concentrations in general are going down.

In 2013 the carbon monoxide (CO) monitor network consists of three sites (Blair Street NCore in the City of St. Louis, Forest Park near-roadway and East St. Louis). For CO, one NCore site and one near-roadway site are required. CO is not much of problem any more here. In 1986 there were six monitors in Missouri.

The nitrogen dioxide (NO_2) monitoring network is to have five sites. There are to be two near-roadway sites, one NCore site and two sites near susceptible/vulnerable populations. The USEPA Administrator added the requirement for monitors to be located near susceptible/vulnerable populations. The existing Margaretta (City of St. Louis) and East St. Louis sites satisfy this requirement. The Blair Street site monitors multiple pollutants (NCore). The first near-roadway monitor is located adjacent to I-64 in Forest Park. MoDNR is working to locate the second one.

In the revision to the SO_2 NAAQS, a formula was established to calculate the number monitors a region required. For St. Louis only two monitors are needed. MoDNR has kept the monitors at Margaretta site (light industrial), Mott Street site (industrial) in Herculaneum and the Blair Street NCore site. The Mott Street monitor has some of the highest SO_2 design values in the country due to the lead smelter. In Illinois, at least for this year, SO_2 monitors are in Wood River, South Roxana and East St. Louis.

The spatial distribution of ozone monitors is different. Other monitors are located in those areas expected to have the highest measured ambient air concentration of a specific pollutant. Ozone occurs as the result of a chemical reaction in the atmosphere so monitor sites can be 10 to 30 miles downwind of metropolitan area sources/fresh NO_x sources. There are 14 monitors in the St. Louis region. To remove a monitor the state has to show that in the last five years the site has not violated the NAAQS and there is another monitor in operation in that county.

The $PM_{2.5}$ network is designed primarily for areas where direct PM2.5 emissions are expected. $PM_{2.5}$ can come from local sources in the region and from transport. Monitor network design criteria is to find locations where expect the highest concentration of emissions. Highly industrialized areas like the north St. Louis river front, Granite City, Alton and Wood River have monitors. The minimum network requirement is three monitors and the region has nine. Federal regulations indicate that the minimum number of PM_{10} monitors needed for St. Louis core are three and there are three monitors. Historically, there have not been significant changes in PM_{10} levels.

Lead today is a source-related issue. The Granite City monitor currently has at least one three-month rolling average NAAQS violation. Do not have a wide-spread lead problem today. With the removal of lead from gasoline, most of the problem was solved.

In February 2010 the NO_2 NAAQS was revised and now requires near-roadway monitoring based on population and traffic counts. Two sites in the St. Louis CBSA and one in Kansas City CBSA are required. Sites were to be identified in the States' July 2012 air monitoring plan and begin monitoring in January 2013. The states informed USEPA that the near-roadway requirements and schedule would place a financial burden on them. USEPA revised the monitoring plan schedule in March 2013. The 2012 Missouri monitoring plan stated that the first St. Louis near-roadway site

would be in operation in January 2013 and that MoDNR was making progress in locating the other two sites in the state. USEPA provided financial assistance so that Missouri could move ahead with this effort. The August 2011 final rule continuing the CO NAAQS also requires near-roadway CO monitoring. The January 2013 final rule revising the PM2.5 NAAQS requires near-roadway $PM_{2.5}$ monitoring. Both NAAQS require that there be one site in the St. Louis CBSA by January 2015 and one site in Kansas City CBSA by January 2017. Both pollutant monitors are to be co-located at the NO_2 monitor sites.

USEPA siting criteria is that near-roadway monitoring sites must be within 50 meters (164 feet) of target road segments so as to measure expected peak concentrations. In St. Louis, MoDOT annual average daily traffic (AADT) counts and a truck traffic weight fraction from USEPA were used to identify potential road segments. Potential segments for near-roadway monitoring included: I-64 east of I-170; I-70 west of I-270; and I-270 in north St. Louis County and in west St. Louis County. The City of St. Louis agreed for the monitor to be located in Forest Park greenhouse's parking lot. It is within 24 meters of the closest west-bound lane of I-64. The site has meteorological equipment and monitoring equipment for $PM_{2.5}$, NO_2, CO, black carbon and PM_{10}. The monitor site began operation on January 1, 2013. Early monitoring results indicate that NO_2, NO, CO and black carbon concentrations are generally higher than at other St. Louis sites. These pollutants show significant morning peaks on weekdays (during the morning commute). After five months, NO_2 and CO do not yet show exceedances of standards.

Mr. Coulson, EWG, asked what the zone of influence was for the West Alton monitor in terms of population exposure. Mr. Hall, MoDNR, said that back in the 1970s USEPA, with the consultation of the state, classified that site as an urban scale monitor, to be representative of a 50 kilometer square area (30 miles). However, when compare ozone concentration isopleths for West Alton and the two Illinois monitors within this area, West Alton almost always is higher than they are.

IV. RideFinders' Schoolpool Initiative
- Joe Wright, RideFinders

RideFinders regional rideshare program was created by the Madison County Transit District in 1994 to improve air quality by reducing traffic congestion. It operates as a free public service for work or school commutes in the bi-state region. RideFinders provides free ridematching service which enables commuters to rideshare by carpool or vanpool.

Schoolpool is a new initiative for K-12 schools. With Schoolpool parents can share the transportation of students to school. Sharing can be via a carpool or parents walking students to school or parents bicycling with students to school). There is no cost or liability for schools. It can help to reduce traffic which improves safety and less traffic equals healthier air. In Illinois this program can help to offset state-level cuts to school transportation funds. Benefits to parents include: safe and reliable transportation for those who can't drive their children to school; improving air quality; improving student health through walking or biking; and saving money on gas. Interested schools can contact and meet with RideFinders. Currently RideFinders is working with 25 schools in the region. After a school joins, parents can register online and identify travel preferences. RideFinders then will

create match lists for carpools or walk/bike options. RideFinders is conducting a number of different outreach activities to promote Schoolpool. RideFinders is working with the American Lung Association and Metro East Community Air Project to encourage no-idling at schools and offers ridesharing information for school staff. Most of participants are coming from private and charter schools as they typically do not have a transportation program.

V. American Fuel Group Report
- Crystal Converse, DOE Clean Cities Intern for St. Louis Regional Clean Cities Program

In May the U.S. Department of Energy (DOE) congratulated the St. Louis Regional Clean Cities Program (SLCC) on a job well done and authorized their re-certification for another three years. Currently, SLCC has two grants from the Maritime Administration of the U.S. Department of Transportation to research the use of coal-bed methane as an American fuel for river transportation and to re-power six tugboats owned by J.B. Marine. Last week SLCC submitted a proposal to USEPA to participate in the National Clean Diesel Funding Assistance Program. Funds were requested to: replace 13 school buses; perform two engine re-powers on tugboats; and obtain 22 truck stop electrification outlets. SLCC is part of the four state Mid-America Collaborative for Alternative Fuel Implementation. The Collaborative has issued a Request for Proposals for scenario evaluation and modeling as way to inform the discussion on alternative fuel use. On October 24, SLCC will hold a ride and drive event at Gateway Motorsports Park in Madison IL.

VI. Update Activities of the States
- Joe Winkelmann, Missouri Department of Natural Resources
- David Bloomberg, Illinois Environmental Protection Agency

The Missouri Air Conservation Commission (MACC) is meeting on June 27 at the Sheraton-St. Louis City Center. Mr. Coulson of EWG is going to give a presentation on EWG's air quality activities. Everyone was encouraged to attend. At this meeting there will be a public hearing on the Reference Method rule (10 CSR 10-6.040) proposed update of several ambient monitoring and laboratory analysis methods. There will also be a public hearing on the proposed minor change to the Buick (MO) - Viburnum Trend lead non-attainment area State Implementation Plan (SIP). The revision would allow the Buick Recycling Facility, a secondary lead smelter, to reroute an emission source to their main stack instead of building a new stack. It is a cost savings item. The main stack would remain the same and there would be no effect on emissions. This approach was learned of late in the design phase for the SIP. There are several items up for adoption at the June meeting. Public hearing for these items were held at the May meeting. Information about them is available on the Air Pollution Control website at http://www.dnr.mo.gov/env/apcp/index.html. Over the next few months MoDNR will have discussions on potential boundary recommendation designations for the 2012 $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS). These recommendations are based on the last three years of PM2.5 monitoring data.

At the July MACC meeting in Jefferson City there will be further discussion on the boundary designation recommendations for the 2012 $PM_{2.5}$ NAAQS. There will be a public hearing on amendment to 10 CSR 10-6.130 for controlling emissions during episodes of potential high pollution,

updating the Air Quality Index (AQI) for consistency with the latest NAAQS and clarify certain other requirements. There will also be a public hearing on annual updates to New Source Performance Standards, Maximum Available Control Technology Standards and National Emission Standards for Hazardous Air Pollutants. These updates would adopt by reference changes to federal rules that have occurred over the last year.

In the 2013 Missouri legislation session, HB 28 was passed which allows fee increases to happen by commission action without direct legislative approval. However, the legislature could deny an increase after the fact. This bill would affect all environmental commissions. Industry was in support of this legislation. HB28 is now in the Governor's office.

Illinois EPA continues to work on the lead rule for the Granite City non-attainment area. It is focused on the Mayco facility which manufactures various lead products from radiation containment shield to shotgun shells. Illinois EPA will hold an outreach meeting in Granite City to discuss the lead rule and receive feedback. USEPA Region 5 has reviewed the draft rule and does not have any technical issues with it. Mayco is to add a second baghouse and is going to move their currently uncontrolled processes into the new baghouse area. USEPA is reviewing the modeling and Attainment Demonstration to insure that everything is ok before Illinois EPA moves forward.

For SO_2 NAAQS, USEPA will probably finalization attainment, non-attainment and unclassifiable designations later this summer. The U.S. Supreme Court has agreed to hear USEPA's appeal on the lower courts' rulings on the Cross State Air Pollution Rule (CSAPR). USEPA plans to continue their alternative approaches for addressing air pollution transport. Today (June 25), President Obama is going to make an announcement concerning greenhouse gases and power plants. The Illinois legislature has passed what some call the "most restrictive" fracking laws in the country. They will take some time to implement. The Illinois Department of Natural Resources will be more involved than Illinois EPA.

VII. Other Business

Ms. Donegan, St. Louis County Air Pollution Control Program, announced that USEPA was holding a meeting on the West Lake Landfill tonight (June 25) starting at 6:30 p.m. at Pattonville High School. Ms. Andria, ABC, said that next week US Steel is going to start construction on their baghouse at the Granite City Works.

The next meeting of the AQAC was scheduled for July 30, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY September 24, 2013
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 July 30, 2013 Meeting

II. **OneSTL: Update on the Plan**
- David Wilson, East-West Gateway Council of Governments

III. **Missouri Air Quality Planning Activities and Air Quality Issues of Interest**
- Wendy Vit, Missouri Department of Natural Resources

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

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

VI. **Other Business** - Next meeting date October 29, 2013

VII. **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, July 30, 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
Christopher Schmidt - Illinois Department of Transportation
Susannah Fuchs - American Lung Association
Jack Fishman - St. Louis University
Ryan Tilley - St. Charles County Health Department
David Bloomberg - Illinois Environmental Protection Agency (telephone)

Others Present:
Jim Stack - Illinois Department of Transportation, District 8
Joe Gray - Illinois Department of Transportation, District 8
Amy Funk - Metro East Community Air Project
Bob Klepper - Missouri Coalition for the Environment
Mark Leath - Missouri Department of Natural Resources
Mark Hildebrandt - Southern Illinois University Edwardsville
Crystal Converse - St. Louis Regional Clean Cities
Amy Bhesania - U.S. Environmental Protection Agency Region 7 (telephone)
Illinois Environmental Protection Agency (2 by 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 June 25, 2013 AQAC meeting were approved as circulated. AQAC participants then introduced themselves.

The new U.S. Environmental Protection Agency (USEPA) Administrator, Gina McCarthy, is making her first policy address today at Harvard Law School. She had been in the USEPA Air Program. The speech will be web cast and archived. Ms. Bhesania, USEPA Region 7, said that the Administrator has a states background and understands the concerns of states and local agencies.

II. Boundary Designation for the 2012 Annual PM2.5 National Ambient Air Quality Standards - Mark Leath, Missouri Department of Natural Resources

$PM_{2.5}$ consists of particles with aerodynamic diameter less than or equal to 2.5 micrometers. Dozens of different chemical species comprise $PM_{2.5}$. $PM_{2.5}$ can be emitted directly (primary) or formed through chemical reactions in the atmosphere (secondary). Primary $PM_{2.5}$ emissions have a localized impact on $PM_{2.5}$ concentrations but as get further away from source concentration become dispersed and settle out of the air. Secondary $PM_{2.5}$ is the result of photochemical reaction in atmosphere when precursor emissions like sulfur dioxide, nitrogen oxide and gaseous hydrocarbons react and form microscopic sulfate, nitrate and other organic particles.

In December 2012 USEPA revised the annual fine particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS) to 12 micrograms per cubic meter (ug/m^3) down from 15 ug/m^3. The first step in the implementation of this standard is to define the attainment/non-attainment areas in the state. A non-attainment area does not meet the standard based on monitor data for that area. If a surrounding area is determined to contribute to a violation it can be included in the non-attainment area. When the standard was promulgated in 2012 it set a one year time period for the states to assemble and submit their boundary recommendations to USEPA.

In April 2013 USEPA issued boundary designation guidelines. For this standard there is no presumptive boundary for a non-attainment area such as a Metropolitan Statistical Area (MSA) or a Core Based Statistical Area (CBSA). States can look at everything on a case-by-case basis. The guidance describes how to perform weight of evidence approach to define a non-attainment area. The following five criteria are to be considered: air quality (monitoring) data; emissions and emissions-related data; meteorology; geography/topography; and jurisdictional boundaries.

The first step in developing boundary recommendations is to look at ambient air monitoring data. Based on 2010-2012 data, all five ambient $PM_{2.5}$ monitors located in Missouri portion of St. Louis MSA are complying with the 2012 standard. However, two of the four Illinois monitors, Granite City and East St. Louis, in the Illinois portion of the St. Louis MSA have design values exceeding the 2012 $PM_{2.5}$ standard and are violating the standard. Missouri will need to determine if there are nearby sources in Missouri which are contributing to a violation at those monitors. Background annual average PM2.5 concentrations across Missouri and in St. Louis range from 9.5 - 10.5 ug/m^3. It does not take much of an contribution from urban activities to have a monitoring reading above 12 ug/m^3. Once the 2013 data is factored into the design value calculations, it is possible that the East St. Louis monitor could be in attainment. In 2000 the annual $PM_{2.5}$ average concentration was 16 ug/m^3. Over time different federal control programs have been put in place and by 2012 the annual average concentration was around 11.5 ug/m^3.

It is important to know the different chemical species comprising $PM_{2.5}$ in St. Louis. USEPA has developed a speciation data analysis process in which speciated data is assembled into five categories: sulfate; nitrate; organic carbon; elemental carbon; and crustal. Speciation data is available for the Blair Street (St. Louis), Granite City Medical (IL) and Mingo National Wildlife Refuge (background level) monitors. The sulfate contribution is about the same at all monitors. Sulfates are

a significant category but are not likely to be from local sources. They tend to occur because of long range transportation from upwind states. There is more of an urban contribution for nitrate. Nitrates form a little more readily from sources in urban areas, especially in cooler months. Organic carbon can have primary (combustion-related activities) and secondary species (photochemical reaction). Primary particles can have an immediate local impact on air quality but may not be observed at a long distance from its source. Organic carbon level at the Granite City site is much higher than Blair Street and Mingo. When levels from Blair Street and Mingo are compared, Blair Street does have some urban contribution. Elemental carbon is uncombusted carbon from diesel exhaust or burning of fossil fuels and is not that significant. The crustal category includes other direct $PM_{2.5}$ categories including oxides of metal, wind blown soil or other materials. Crustal concentration at Granite City (iron) is the highest with Mingo (silicon from agricultural activities) second.

Another step in the air quality monitoring data analysis is to select 15-20 days of high daily $PM_{2.5}$ concentrations from the Granite City and East St. Louis monitors and compare concentrations at Blair Street monitor. Blair Street site is within three to four miles of them. The daily concentration at Blair Street monitor was found to be considerably lower that the two Illinois sites. MoDNR is also taking into consideration the readings from the Granite City monitor before and after the temporary shutdown of US Steel Granite City Works in 2009.

Another criteria to consider is emissions. In the 16 county St. Louis MSA, the majority of emissions is from St. Louis area. However, because emission sources are here is not enough to say definitely that they are causing the elevated emission levels. It is important to consider the location of sources but not enough to define a non-attainment area. The location of major point sources (more than 100 tons per year of indirect precursor emissions or direct $PM_{2.5}$ emissions) has been identified. Location of sources and meteorological data can be used to estimate where emissions are coming from on high concentration and low concentration days. For the Granite City monitor, two major sources (US Steel and Gateway Energy Coke plant) are within one mile of it. There are several $PM_{2.5}$ sources to the southeast and southwest of the East St. Louis monitor.

Analysis of meteorological data will focus on selected high episode and low episode days at the two violating monitors in Illinois. Wind rose data (speed and direction) from the St. Louis Downtown Airport in Cahokia will be analyzed. On high episode days, wind speed are relatively calm, holding emissions in the area. On low episode days there are higher wind speeds. On high episode days at Granite City, primary wind direction is from southeast, not from Missouri.

Other items to be considered include: geography/topography; jurisdictional boundaries; and emissions-related data such as vehicle miles traveled and population. Missouri has no authority to control Illinois sources and vice versa. MoDNR will evaluate existing and additional future (if designated as non-attainment) controls in the Missouri portion of the St. Louis MSA. Phase II of the Clean Air Interstate Rule (CAIR) begins in 2015 and will result in major reductions. CAIR is required for every Maximum Available Control Technology (MACT) rule established by USEPA. Federal Utility Mercury and Air Toxics standards (MATS) are designed to control air toxics emissions from power plants. In the Missouri portion of the St. Louis MSA, four electric generating units (EGUs) are subject to both CAIR II and the Utility MATS. They are: Ameren Meramec;

Ameren Sioux; Ameren Labadie; and Ameren Rush Island. These EGUs account for 63 percent, 57 percent and 76 percent of all Illinois/Missouri point source emissions for nitrogen oxide, $PM_{2.5}$ and sulfur dioxide respectively. The compliance date for the federal Boiler MACT is January 2016. Boiler MACT is designed to control air toxics but there is also direct PM2.5 and volatile organic compounds benefits. There are 23 facilities in the Missouri portion of the St. Louis MSA with 155 emission units subject to this rule. Mobile source emission controls in place continue to lower emissions. Controls include: reformulated gasoline program; inspection and maintenance program; Stage I refueling requirements at service stations; Federal Emission Standards for on-road and off-road engines; and continued phase out/retirement of older, higher polluting engines/vehicles.

The weight of evidence analysis must take all data into consideration to determine appropriate non-attainment area boundaries. Missouri will be coordinating and sharing information with the Illinois Environmental Protection Agency (Illinois EPA) and USEPA while data analysis continues. Public involvement is encouraged throughout this process. MoDNR will post proposed recommendations on their web site for 30 day public comment on September 30. MoDNR will then present the proposed recommendations at a Missouri Air Conservation Commission (MACC) public hearing in October. The MACC is to adopt the recommendations in December. The state's boundary recommendations will then be submitted to USEPA USEPA has the final say on non-attainment designations. USEPA will review the recommendations and in August 2014 issue a letter informing each state whether USEPA agrees with or is proposing changes to the boundary recommendations. The state then has 120 days (until October 2014) to provide additional information supporting their December 2013 recommendations. USEPA will then consider the additional information and promulgate the designations by December 12, 2014. Non-attainment area State Implementation Plans (SIPs) with reasonable further progress and attainment demonstration components will be due to USEPA in June 2015.

Ms. Funk, Metro East Community Air Project (MECAP), asked about the Illinois designation schedule. Mr. Bloomberg, Illinois EPA, said that they will be doing outreach and asking for public comment probably starting some time in October.

Mr. Klepper, Missouri Coalition for the Environment, observed that the discussion about $PM_{2.5}$ sources on the MoDNR web site identifies dust as a major source but the speciation data shown today did not. Mr. Leath, MoDNR, said that dust is associated with paved and unpaved roads and agricultural tilling. Dust falls out of the atmosphere and settles a short distance away from its sources. Urban areas like St. Louis are not going to be affected by those type of sources.

Mr. Coulson, EWG, said that if the whole area is designated non-attainment and have to prepare SIP, it seems that with all the controls have in place the area would still be on the way to making attainment. Mr. Leath, MoDNR, said that when the standard was finalized, USEPA said that they are assuming that because of the federal controls, every area, except for some in California, is expected to attain the standard. A consideration for Missouri is does it make sense to recommend non-attainment and perform an attainment modeling demonstration, costing a quarter to half million dollars photochemical modeling effort. This discussion will be included in the recommendation document to USEPA.

Mr. Tilley, St. Charles County, asked if the scrubbers installed at the four Ameren plant are expected to help reduce $PM_{2.5}$. Mr. Leath, MoDNR, said that the scrubber installed at the end of 2010 at the Sioux plant in St. Charles County has reduced SO2 emissions between 35,000-40,000 tons per year. Other controls are being installed across the nation and long range transport/background levels are going down. Sulfates are a major component of PM2.5 so anytime reduce sulfate levels it is important.

Mr. Wilson, EWG, asked what is the best way to describe the condition of the St. Louis region relating to $PM_{2.5}$ at this time. Mr. Leath, MoDNR, said that the trend is downward but that anytime monitors are not in compliance with the standard there is the risk of public health disbenefit. Area is still designated as non-attainment for the 1997 $PM_{2.5}$ standard but has received a clean data determination from USEPA based on monitoring data. Ms. Bhesania, USEPA Region 7, said that USEPA made final determination in 2012 and the annual $PM_{2.5}$ standard has been lowered. She added that it could be said that the St. Louis area is violating the 2012 standard but is in compliance with the level set in the 1997 standard. Mr. Wilson, EWG, observed how difficult this is to explain this to the general public.

III. NASA's Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys: The St. Louis Connection
Jack Fishman, Ph.D., St. Louis University

NASA had planned to conduct in 2013 a Studies of Emission and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys ($SEAC^4RS$) project in Thailand. Such a mission, using satellites and aircraft equipped with sophisticated data collection equipment, can take four to five years to plan out. Information from daily flights of NASA aircraft will be coordinated with data obtained from passes of six NASA satellites to achieve the mission's science objectives. However, in 2012 the State Department determined that $SEAC^4RS$ in Thailand could not go forward because it might appear that the U.S. was using the guise of NASA to spy on North Korea or China. Over the last year NASA assembled new objectives for a study area in the central U.S. $SEAC^4RS$ is being coordinated with other NASA projects underway in the U.S.

In support of $SEAC^4RS$, during August-September St. Louis University (SLU) and five other ozone stations will launch ozonesondes to provide a synoptic 3-D picture of what the atmosphere looks like on the $SEAC^4RS$ flight days. The aim is to understand what the satellite sees in coordination with what is observed at the surface. An ozonesonde is a balloon with a three to four pound instrument package (ozone sensor and meteorological instruments) that transmits information in real time during the balloon's ascent up to 31 kilometers and descent (after the balloon pops). The ozonesondes will be launched from Forest Park near the McDonnell Planetarium. Each package has mailing instructions and a label. There is a $30 reward for mailing the equipment package back to SLU. SLU and the Science Center are preparing a news release and a letter but need assistance in contacting local law enforcement.

Mr. Coulson, EWG, suggested that the St. Louis Regional Response System (STARRS) at EWG may be able to help. Ms. Fuchs, American Lung Association (ALA), said that she would contact the

KMOV meteorologist who works with the St. Louis Regional Clean Air Partnership (SLRCAP) about the ozonesondes.

IV. Current Activities of Metro East Community Air Project
- Amy Funk, Metro East Community Air Project

The Metro East Community Air Project (MECAP) is part of the Action Illinois Program through the University of Illinois. Funding for MECAP was the result of a settlement between Holcim and the environmental community. MECAP aims to promote community-based efforts to address air pollution and health through community engagement, education programs and air monitoring research.

MECAP participates in community events, gives presentations to a wide range of groups and students, coordinates outreach campaigns, distributes information and maintains a website. Recently, MECAP partnered with RideFinders and Madison County Transit on a bookmark contest for school children. Over 300 entries were received. The contest is a way to engage students and discuss impact of air pollution on health and how to improve air quality. The winner of the Madison County bookmark contest was announced at the yearly Madison County Earth Flag meeting for students, teachers and administrators. At this meeting awards are presented for recycling and other sustainable activities at schools. As part of the St. Clair County Health Department's We Chose Health program, MECAP partnered with the Health Department on a bookmark contest for students in St. Clair County with 1,300 entries. When MECAP and the Health Department went to the winner's elementary school to present the award, they found that the whole school had assembled to see the presentation and learn about air quality and public health.

MECAP and the St. Louis Regional Clean Air Partnership (SLRCAP) are working with Belleville East High School students and elementary school students on a campaign to bring attention to no-idling at their schools. They are giving out larger bookmarks with tips and information on no-idling. These bookmarks can be distributed to students, parents and staff and pledge forms. Ms. Fuchs, ALA, said that SLRCAP is doing a similar program in Missouri and that the bookmarks can be customized with the name of a specific school. In addition, free no-idling signs are available. Sustainability Madison County and MECAP are working on a greenhouse gas inventory. MECAP also provides air quality information to the Southwestern Illinois Asthma Coalition.

This Fall, MECAP and a student from the George Warren Brown School of Social Work at Washington University will be carrying out a project selected for the USEPA Toxic Release Inventory (TRI) University Challenge. The project will analyze and map TRI data alongside locally relevant health and demographic information. The aim is to use TRI information to increase community awareness of air quality in the St. Louis metropolitan area. MECAP and Southern Illinois University Edwardsville (SIUE) are working on an ozone monitoring project. MECAP is assisting SLU in establishing an ozone garden at the Belleville campus of Southwestern Illinois College. MECAP and USEPA Region 5 are also participating in a joint USEPA project evaluating different monitoring technologies.

The third Metro East Air and Health Forum will be on October 18 at the Caseyville IL Community Center. The focus will be on asthma as a community health issue. The keynote speaker will be Dr. William Kincaid of St. Louis University. Air pollution today is better than it was 20-30 years ago but there has been an increase in asthma sensitive populations. Mr. Zlatic, St. Louis County, said that he has worked with Dr. Kincaid on the County's Healthy Homes program. He observed that indoor air is much more polluted than outdoor air and this is where people spend more time and that may be driving the asthma issue. Ms. Funk, MECAP, agreed that can not have a discussion on asthma without addressing indoor air quality.

V. American Fuel Group Report
- Crystal Converse, St. Louis Regional Clean Cities Program

The St. Louis Regional Clean Cities program (SLCC) is part of the four state Mid-America Collaborative for Alternative Fuel Implementation. One project is to develop a modeling methodology to evaluate the air quality impact of alternative fuel vehicles under different scenarios. This methodology could be made available to planning and air agencies. The Collaborative is in the process of evaluating the proposals received to carry out this effort. SLCC has submitted two $500,000 research proposals to the Maritime Administration of the U.S. Department of Transportation. These studies would evaluate the benefits of the use of methane gas from landfills and coal beds in powering two Mississippi River tug boats already been converted to use LNG or CNG. Purpose is show how cleaner burning methane could be used as a maritime fuel in other inland ports and waterways of the U.S. At the last AQAC concerns were expressed about the use of coal bed methane as a fuel. This is already occurring. On October 24, SLCC will hold an Alternative Fuel Expo at Gateway Motorsports Park in Madison IL. There will be a panel of experts and the opportunity for ride and drive with a wide selection of alternative fuel vehicles.

VI Update Activities of the States
- Joe Winkelmann - Missouri Department of Natural Resources

MoDNR's Air Pollution Control Program is preparing comments on USEPA's proposed ozone implementation rule for the 2008 eight-hour ozone standard. USEPA released the proposed rule in June. The deadline for comments has been extended to early September. MoDNR would like to see some specificity from USEPA on how to address the unique nature of the St. Louis region, especially the Missouri side. The St. Louis non-attainment area is composed of two states. Illinois has an approved Maintenance Plan for the 1997 eight-hour ozone standard. and was designated to attainment. Missouri had a clean data finding for the 1997 standard but then had a bad year in 2012 due to extreme meteorology.

Earlier this year the MACC adopted an Early Progress Plan for 2008 eight-hour ozone standard containing MOVES-established 2015 motor vehicle emissions budgets. This plan shows that with federal vehicle technology controls in place the area is expected to attain the standard by 2015. MoDNR plans to submit this document to USEPA shortly.

Several rules were up for public hearing at the July 24 MACC meeting. Comment period is open until July 31. There is a proposed amendment to 10 CSR 10-6.130 (controlling emissions during episodes of high air pollution potential) updating the Air Quality Index (AQI) table in this rule for consistency with all the recent NAAQS changes. Another set of proposed rules incorporates by reference federal updates to state rules for new source performance standard, maximum available control technology (MACT) and national emission standards for hazardous air pollutants. At the MACC meeting on August 29 there will be public hearing on proposed recision to 10 CSR 10-3.010 rule concerning auto exhaust emission controls from 1972. This rule is now outdates as the standards for manufactured vehicle emissions equipment has advanced beyond the requirements established in this rule. At the September MACC meeting there will be public hearings on a proposed commercial-industrial solid waste incinerator rule, maintenance updates to air pollution definitions and incorporation by reference of federal regulatory requirements for Section 111 E of Clean Air Act State Implementation Plan revisions.

Mr. Leath, MoDNR, said that since 2008 Missouri has received a small percentage of the federal Diesel Emissions Reduction Act (DERA) program funding. Funds are to be used to reduce diesel emissions in specific areas of Missouri. In 2013 the smallest amount of DERA funding ($100,00) was allocated to each state. MoDNR has decided to open up these funds statewide and focus on early school bus replacements. The state will pay 25 percent of the cost for a new school bus. All bus owners with public or private school buses operating in Missouri are eligible. An owner will have to disable an older (1992-2003 model year), high polluting school bus. Applications are being accepted and selection will be by random drawing. The state DERA funding has to be spent by October 1, 2013.

VII. Other Business

Mr. Coulson, EWG, announced that on July 18 there were four exceedances of the eight-hour ozone standard. At this time in 2012, there had been 27 ozone days and 102 exceedances.

Mr. Schmidt, Illinois Department of Transportation (IDOT), announced that the call for projects for Illinois Transportation Enhancement closes on August 20, 2013. More information is available at www.dot.il.gov. Mr. Stack, IDOT, said that Bruce Carmitchel, a senior metropolitan planning manager at IDOT commented at the EWG Executive Advisory Committee on how well the EWG staff produced the Conformity Determination, Transportation Improvement Program and Congestion Management Process documents. Mr. Stack, also, noted that EWG staff always does a great job to get these documents done and approved in a timely manner.

There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.

AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY October 29, 2013
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 September 24, 2013 Meeting

II. **Update on NASA's SouthEast American Consortium for Intensive Ozonesonde Network Study (SEACIONS): The St. Louis Connection**
- Jack Fishman, Ph.D., St. Louis University

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

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

V. **2013 Ozone Season Report**
- East-West Gateway Council of Governments

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

VII. **Other Business**

VIII. **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, September 24, 2013
East-West Gateway Board Room

Members Present:
Michael Coulson, Chair, East-West Gateway Council of Governments
Wendy Vit - Missouri Department of Natural Resources
Joe Winkelmann - Missouri Department of Natural Resources
Mike Henderson - Missouri Department of Transportation
Jeremy Rogus - St. Louis County Department of Health
Betsy Tracy - Federal Highway Administration, IL
Christopher Schmidt - Illinois Department of Transportation
David Bloomberg - Illinois Environmental Protection Agency

Others Present:
Joe Gray - Illinois Department of Transportation, District 8
Emily Wilbur - Missouri Department of Natural Resources
David Shanks - Boeing
Meredith Klekota - Trailnet
Kevin Herdler - St. Louis Regional Clean Cities
Bill Wisbrock - St. Louis Regional Clean Cities
Amy Bhesania - U.S. Environmental Protection Agency Region 7 (telephone)
Bob Klepper - Missouri Coalition for the Environment (telephone)

Staff:
David Wilson Gary Pondrom 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 July 30, 2013 AQAC meeting were approved as circulated.

II. OneSTL: Update on the Plan
- David Wilson, East-West Gateway Council of Governments

The aim is to develop a regional plan for sustainable development which will bring in many more partners thus leading to the name of OneSTL. If everyone in the two states, eight counties and 200 plus municipalities can work together more effectively, than the region can compete more effectively in the global marketplace. Focus of the plan is helping communities be what they want to be and pursue their own vision of the future and yet work together.

The OneSTL process has been overseen by a Steering Committee made up of representatives from the 11 Consortium partners and three standing committees. The Technical Planning Committee had five subcommittees and work groups for transit oriented development (TOD), environmental best practices, data portal development and other topics. There is also a Community Engagement Committee. The Outcome Management Committee has been working on ways to determine if the goals in the plan are being achieved and what steps are needed to move OneSTL forward. As OneSTL is a new plan, it has been challenging to identify what its focus should be and where the best results will occur.

The process began more than two years ago with a series of listening sessions in 11 different planning areas in the St. Louis region. They were a cross sectional representation of the different kinds of communities found in the region. At these 33 meetings the partners learned what concerns, priorities and interests residents had about their communities and where they would like to see their communities go in the future. A survey was also conducted to identify priority issues. This process encourages people to think about what they want the future of their community to be. The standing committees oversaw 75 different plans, studies and associated reports which were supported by 61 public meetings.

Out of these activities and reports, priority issues and concerns were identified and nine major themes were delineated. The themes include: collaborative; prosperous; distinctive; inclusive; green; prepared; connected; efficient; and educated. From planning area meetings, learned that the public believed that local government should be working with neighboring local governments to solve local/sub-regional problems. In all of the planning areas, residents said that they liked where they lived and liked what they had there. That perspective was synthesized into distinctive nature of different communities in the region and people have made a choice to live in one place or another based on their values and likes. A regional plan is being developed but it is not meant to create a mono-culture, want distinctiveness.

Some of the transportation reported completed as part of the OneSTL effort included municipal and county bicycle/pedestrian plans and four best practices guides for transportation programs. Metro, Great Rivers Greenway and EWG, working in partnership with local governments, conducted a series of TOD studies along the MetroLink line. A high-level financial overview of potential for investment at all 30 stations was conducted. Some stations have more development opportunity than others. Working with local governments, in-depth station area TOD plans were conducted. Citizens for Modern Transit (CMT), with the Urban Land Institute, organized technical assistance panels that reviewed station plans for Belleville, University of Missouri St. Louis (UMSL) South and Grand (City of St. Louis) and for possible station at CORTEX site in the City. Outside experts gave feedback and suggestions concerning development strategies. Information about strategies for longer term planning/development gained from these efforts was compiled into two TOD best practices guides. CMT has pointed out that One STL is not just a planning effort but that implementation is already underway. In addition, a request for qualifications for development is out for the Belleville station, a Chapter 353 for tax support has been established for the UMSL South station with UMSL as the lead developing partner. A grant has been received to develop form-based overlay codes at both the Grand and St. Charles Rock Road stations. A feasibility study is underway for a new

MetroLink station at the CORTEX site in central City of St. Louis. A variety of other reports have been produced for local governments. Topics included: code and ordinance reviews for municipalities so they can support more sustainable development practices; housing assessments and a housing study; environmental studies (water, wastewater, stormwater); climate change assessment; public engagement efforts; and development scenario and process evaluation.

All of the Consortium partners, like CMT, have identified key elements within the OneSTL goals and objectives that they intend to focus on going forward. One of the strengths of this plan is that it is not an EWG plan solely. It is a plan that 11 partners worked on plus a lot of other agencies/organizations. Over the next year hope to build on the number of organizations/agencies who endorse the plan and identify key strategies/actions that they will take the lead on. HeartLands Conservancy is a key Illinois partner and lead environmental organization for OneSTL. HeartLands has produced a number of reports targeting environmental aspects (water infrastructure, community bike/pedestrian plans, toolkit) for Illinois counties. From these studies they have been able to develop green infrastructure strategies for the entire region. Going forward, HeartLands will continue to focus on Metro East counties and will work on Complete Street legislation with local communities and green infrastructure. As part of a broader collaboration, HeartLands is involved in obtaining a higher designation for the Cahokia Mounds World Heritage sites and in linking trails to other mounds in region to increase potential for more tourism activities.

As part of OneSTL effort, two web sites have been developed. The primary web site is www.oneSTL.org. This web site contains the draft plan, description of the process, measures of success and the 75 plans and studies produced by the Consortium Partners. Under development is a toolkit of best management practices/sustainable solutions that local governments can review and use. EWG has committed to maintain the OneSTL site. St. Louis University is managing the second web site. It is a regional data portal (www.stlouisdata.org) that provides people and local governments the opportunity to access and share databases and develop and print digital maps.

From August through September, OneSTL has been holding open houses on the draft OneSTL. There will be a presentation on the draft plan at the September EWG Board of Directors meeting. Board action could occur in October or they may decide that more discussion and review is needed before action in December 2013. On November 15 before the EWG Annual Meeting workshops will be held to introduce the OneSTL plan and the best practices toolkit. After the grant ends in December 2013, implementation will be the next step. This will consist of presentations and seeking endorsements from others who want to be part of the plan process. The plan can be used to coordinate a variety of partnerships throughout the region.

III. Missouri Air Quality Planning Activities and Air Quality Issues of Interest
- Wendy Vit, Missouri Department of Natural Resources

The Air Quality Planning section of the Air Pollution Control Program (APCP) of the Missouri Department of Natural Resources (MoDNR) is divided into two units. The State Implementation Plan (SIP) Unit is charged with developing SIPs, including computer modeling, and preparing National Ambient Air Quality Standards (NAAQSs) boundary designation recommendations. Emily

Wilbur is the SIP Unit Chief and Joe Winkelmann is a Senior Engineer in this Unit. The Rules Unit, Wayne Graf Unit Chief, is responsible for developing state rules.

Two ozone NAAQS are in play right now. MoDNR is working to wrap up the 1997 eight-hour ozone standard for the Missouri portion of the St. Louis non-attainment area. The area had three years of clean data (no violations) and process to be redesignated was underway in 2012. But with the hot summer of 2012, one monitor violated this standard. The 2013 summer has been milder and this monitor is back in compliance. MoDNR is working with USEPA Region 7 to be finished with this standard so can focus totally on the 2008 eight-hour ozone NAAQS. For the 2008 standard, in Missouri, only the five county St. Louis region was designated as non-attainment. St. Louis is classified as marginal which is closest to attaining the standard. A minimal SIP is due in summer 2014 with attainment to occur by December 31, 2015. The plan is going to rely on controls already in place in the St. Louis region plus the implementation of federal controls (cleaner cars and trucks, transport rule, etc.) That mix of controls should be what is needed to bring the area into attainment. The three years of ozone monitor data to be used to show attainment of the 2008 standard will be 2013-2015.

USEPA currently is reviewing the ozone NAAQS and should announce a decision later this year or early in 2014. If the standard is lowered, there could be implications for the St. Louis region as well as other areas. Kansas City, Springfield and southeast Missouri have joined the USEPA Voluntary Ozone Advance Program which encourages voluntary emissions reductions to achieve ozone benefits and avoid non-attainment designation. Joplin is organizing a Ozone subcommittee for the Tri-State Clean Air Alliance Board.

For the 1997 annual fine particulate ($PM_{2.5}$) standard, the St. Louis (MO-IL) non-attainment area has clean data (no violation of standard). MoDNR is working with USEPA Region 7 to have the Missouri portion resdesignated as attainment. If redesignated, then would need to keep existing controls in place to insure continued attainment of the 1997 standard. In 2012 a tighter annual $PM_{2.5}$ standard was set. Missouri does not have any monitors in violation of the 2012 standard. Over the last several months MoDNR has been developing boundary recommendations (non-attainment, attainment/unclassifiable). Much of the focus has been on determining what impact does Missouri have on the closest violating monitors in Illinois. Expect to recommend that the entire state of Missouri be designated as attainment/unclassifiable. This recommendation will be posted for a 30-day review and comment period on September 30. The Missouri Air Conservation Commission (MACC) will hold a public hearing on October 30 and will adopt the recommendation in December. It will then be submitted to USEPA. The final designation decision will be made by USEPA in one year's time.

Mr. Coulson, EWG, observed that for ozone in years gone by, USEPA has been reluctant to break up the St. Louis non-attainment area. Ms. Vit, MoDNR, said that dialogue with USEPA has already begun. MoDNR analysis shows that, in terms of meaningful contribution from nearby Missouri sources to violating Illinois monitors, the Missouri sources may be contributing more to the background levels. In terms of what is causing a specific Illinois to violate, MoDNR is seeing that more as a localized direct $PM_{2.5}$ issue and more about nearby sources on the Illinois side. It will be interesting to see how USEPA responds to this recommendation.

The 2010 sulfur dioxide (SO_2) standard is a localized, source-specific standard. USEPA finalized initial non-attainment areas based on violating monitors. There is a small non-attainment area in downtown Kansas City (steam generating facility) and another is in eastern Jefferson County (power plants and Doe Run primary lead smelter in Herculaneum). MoDNR is working with the sources in these areas. SIPs are due in April 2015 and the attainment deadline is October 2018. In the future other non-attainment areas may be designated based on modeling and new monitors. USEPA is to issue guidance and rule-making which will establish what additional SO_2 sources throughout the state will need to be evaluated.

In 2012, the Missouri legislature established a state rule requiring all state rules be reviewed on a five-year schedule. The review of the 700 MoDNR rules is to begin in 2016. To start the process there will be a notice in the Missouri Register listing all the rules and open a 60-day public review and comment period. MoDNR must develop reports addressing: rule necessity; duplicate requirements; ways to reduce burdens; and response to public comments. As the APCP has 100 rules, the APCP has begun to work on this effort and the Air Program Advisory Forum stakeholder group is assisting with information gathering.

The Stage II Vapor Recovery Program at gas stations in the Missouri portion of the St. Louis region has been a key ozone control strategy since the 1980s. Nozzles at gas pumps capture the vapors displaced during refueling. Now, 1996 model year and newer vehicles have technology that performs the same action. In May 2012 USEPA issued a rule that stated that this vehicle technology is in widespread use (making Stage II obsolete) and gave states the option to phase out Stage II equipment. MoDNR evaluated their Stage II program and vehicle fleet characteristics and determined that removal of the Stage II equipment will not have a negative impact on air quality. In the St. Louis region 700 facilities are subject to Stage II requirements. The decommissioning process is being done in parallel with rule-making/SIP development process. Decommissioning of new facilities started in late 2012 and all facilities were allowed to decommission as of March 15, 2013. As of late August, 227 facilities have been decommissioned and decommissioning is underway at 245. This fall the proposed rule will be posted for a 60-day informal review and comment period. In 2014 there will be a 30-day public review and comment period, a public hearing by the MACC and then adoption of the rule by MACC late in 2014.

It is anticipated that upcoming USEPA utility regulations are going to impact the state. As result of the President's Climate Action Plan, USEPA has release a proposed rule to address carbon pollution from new power plants. In June 2014, a proposed rule for existing powers plants is expected with final rule in June 2015. USEPA has begun outreach efforts. USEPA is developing a new transport rule regulating SO_2 and nitrogen dioxide (NO2) emissions in order to control ozone and $PM_{2.5}$ levels. The U.S. Supreme Court is reviewing lower court's decision on the Cross State Air Pollution rule.

For information about air items on public notice, the Air Program Advisory Forum and the Stage II Vapor Recovery Program rule go to www.dnr.mo.gov/env/apcp.

IV. American Fuel Group Report
- Kevin Herdler, St. Louis Regional Clean Cities Program

The St. Louis Regional Clean Cities program (SLCC) is part of the Mid-America Collaborative for Alternative Fuel Implementation (Kansas, Iowa, Nebraska and Missouri). Mr. Herdler is working on the air quality section and will be looking at air quality issues and how American Fuel vehicles can fit into SIP planning. ICF International has been selected to develop a methodology to work with American fuels in the MOVES model and to evaluate the air quality impact of alternative fuel vehicles under different scenarios. The aim is to develop a methodology which can be used by other planning and air agencies. This project is expected to be completed by February 2014.

On October 24, SLCC will hold an Alternative Fuel event at Gateway Motorsports Park in Madison IL. Ride and drives will take place on the road course and the oval and there will be panel discussions on each fuel type.

Mr. Herdler is assisting the National Alternative Fuels Training Consortium (NAFTC) at West Virginia University in the development of curriculum for first responders, tow truck drivers and salvage yard operators on how to deal with alternative fuel vehicles.

SLCC is working with Clean Cities Board member Bill Wisbrock on a landfill gas recovery project in St. Clair County. Mr. Wisbrock said that he is working with the village of Marissa. Waste Management operates a landfill near Marissa and has given the landfill gas to Marissa which the village does not want. He has a memorandum of understanding with Marissa to clean up the gas and have pipeline-quality gas that can go into the Ameren pipeline and liquid carbon dioxide (CO_2). Liquid CO_2 can be used as an abrasive to clean graffiti and industrial machinery and leaves no residual. Mr. Shanks, Boeing, said that his company uses CO_2 pellets to strip paint off of helicopters.

V. Update Activities of the States
- David Bloomberg, Illinois Environmental Protection Agency
- Wendy Vit, Missouri Department of Natural Resources

Julie Armitage is now the Chief of the Bureau of Air at Illinois EPA. Prior to this she was the head of the Air Enforcement Section and had served as acting Chief Legal Counsel for Illinois EPA. In addition, the head of the Permits Section has retired

There are two SO_2 non-attainment areas in northern Illinois. Illinois EPA has been meeting with the various culpable sources in these areas. Modeling shows that these sources have an impact in that specific non-attainment area. Illinois EPA is working with them to figure out how to best reduce their emissions. The process to finalize the lead rule for the Granite City non-attainment area continues. Mayco has already applied for permits for construction so they can install the necessary controls fairly soon. Illinois EPA is working on their designation recommendations for the 2012 $PM_{2.5}$ standard and will make a presentation on them at the October AQAC meeting.

The MACC meets on September 26 in Kansas City. Three items are up for public hearing. One is a proposed amendment to 10 CSR10-6.020 definitions rule. Another hearing will be for a new state

rule related to the new federal regulation for commercial/industrial solid waste incinerator units. The federal regulation is being incorporated by reference into the state rule. Also up for public hearing is the associated plan for implementation of commercial/industrial solid waste incinerator emissions guidelines.

Mr. Coulson, EWG, asked if the SO_2 problem would go away with the closure of the operations at the Doe Run facility in Herculaneum. Mr. Winkelmann, MoDNR, said that Doe Run's sinter plant will close at the end of 2013 and all pyro-smelting technology will stop by spring 2014. It is expected that SO_2 emissions from that facility will be practically zero. However, this non-attainment area also contains the Meramec power plant (Ameren) to the north and the Rush Island power plant (Ameren) to the south. Part of the planning effort will be to examine the effect of them.

VI. Other Business

Mr. Coulson, EWG, reported that there have been 15 exceedances of the 2008 eight-hour ozone standard over 7 days at eight monitors. Ten exceedances occurred during the early September heat wave. Last year the West Alton monitor was in violation of the 1997 eight-hour ozone standard and with this summer it is back in compliance. The number of 90° F days (37) was comparable to the average number of 90° F days which show that the control programs are working.

Ms. Lawrence, EWG, said that EWG is looking for nominations for its Outstanding Local Government Achievement Awards. These awards in five different categories will be presented at EWG's annual meeting in November. Please contact Julie Stone for more information.

Mr. Schmitt, Illinois Department of Transportation (IDOT), announced that the IDOT statewide draft Multi-Modal Transportation Improvement Program (TIP) for FY 2014-2019 is out for review and comment. IDOT is conducting outreach on its comprehensive, statewide Illinois Bike Transportation Plan. There will be a public meeting from 4 p.m. until 6 p.m. at the IDOT District 8 offices in Collinsville on this plan and the District 8 portion of the statewide TIP. These drafts are available online at: www.dot.il.gov/hip1419/hwyimprov.htm and www.illinoisbikeplan.com .

The next meeting of the AQAC was scheduled for October 29, 2013. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.