

# Metropolitan Washington Air Quality Committee

Suite 300, 777 North Capitol Street, N.E. • Washington, D.C. 20002-4239 • 202-962-3358 • Fax: 202-962-3203

## TECHNICAL ADVISORY COMMITTEE

Date: June 10, 2005

Time: **10:00 am – Noon**

Lunch will be served to members at noon.

Place: **COG Board Room, 3rd Floor**

MWCOG, 777 North Capitol St., NE, #300

Washington, D.C. 20002

## Agenda

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- 10:00 1. Call to Order and Review of Meeting Summary (May 20, 2005)**  
*Chairman Tad Aburn, Maryland Department of the Environment*
- 10:05 2. SIP Planning: Update**  
*Joan Rohlf, COG/DEP, will provide an update on SIP Planning for the 8-hour ozone SIP.*
- 10:15 3. Control Strategy Development: Draft Prioritization Report**  
*Jeff King, COG/DEP, will discuss the development of control strategy prioritization report for the 8-hour ozone SIP.*
- 10:30 4. MOBILE6 Modeling: Update**  
*Daivamani Sivasailam, COG/DTP, will discuss MOBILE6 modeling issues for the 8-hour SIP and conformity.*
- 10:45 5. PM2.5 Conformity: Update**  
*Mike Clifford, COG/DTP, will present the draft work plan and schedule for handling PM2.5 conformity.*
- 11:00 6. Railroad Emission Reduction Technology: Report**  
*David Humann, Vice President, EcoTrans Technologies, will discuss strategies to reduce emissions from railroad operations.*
- 11:30 7. Commuter Connections Program: Report**  
*Nick Ramfos, COG/DTP, will discuss the commuter connections program, including information on program status and accomplishments.*
- 11:45 8. State and Local Air Agency Report**
- 12:00 9. Set Date for Next Meeting, Future Agenda Items, Adjourn:**  
*Next TAC Meeting: July 8, 2005*

**DRAFT**

**MWAQC Technical Advisory Committee  
Meeting Summary  
May 20, 2005 12:00 noon – 2:00 pm  
COG Room 1**

**Present:**

Tad Aburn, Maryland Department of Environment  
Rick Canizales, Prince William County Department of Public Works  
Randy Carroll, Maryland Department of Environment  
Howard Chang, Tricounty Council of Southern Maryland  
Kipp Coddington, Greater Washington Board of Trade  
Barbara Hardy, Fairfax County Department of Environmental Services  
Jeff Harn, Arlington County Department of Environmental Services  
Alex Hekimian, Maryland National Capital Parks and Planning Commission  
Maurice Keys, District of Columbia Department of Transportation  
Doris McLeod, Virginia Department of Environmental Quality  
Chris Meoli, Virginia Department of Environmental Quality  
Jim Ponticello, Virginia Department of Environmental Quality  
Mary Richmond, Montgomery County Department of Environmental Protection  
Bill Skrabak, Alexandria Department of Environment Quality  
Arnold Solomon, Mirant MidAtlantic  
Kanti Srikanth, Virginia Department of Transportation  
Ram Tangirala, District of Columbia Department of Health  
Julie Thomas, National Park Service  
Didian Tsongwain, Prince George's County Department of Environmental Resources  
Flint Webb, Fairfax County Federation of Citizens Association

**Staff:**

Jeff King, COG/DEP  
Ron Kirby, COG/DTP  
Sunil Kumar, COG/DEP  
Joan Rohlf, COG/DEP  
Daivamani Sivasailam, COG/DTP

**Observers:**

Charley Baummer, Metropolitan Washington Airports Authority  
Julie Crenshaw, Air Quality Public Advisory Committee  
Stacey Davis, Center for Clean Air Policy  
Greg Dierkers, Center for Clean Air Policy  
Christopher Forinash, U.S. EPA  
Ned Helme, Center for Clean Air Policy  
Tagg Hutchinson, Center for Clean Air Policy  
Gary Koerber, U.S. Department of the Navy Regional Environmental Coordinator Region III  
Matt Ogonowski, Center for Clean Air Policy  
Victor Waldron, U.S. EPA  
Mac Wubben, Center for Clean Air Policy

## **1. Call to Order**

Mr. Aburn called the meeting to order at 12:10 pm. The minutes of the April 8, 2005 meeting were approved. The agenda order was revised slightly to accommodate minor delays with audiovisual equipment. The state air agency, emissions, and attainment modeling reports were given first.

## **2. State and Local Air Agency Report**

Ram Tangirala reported that the District of Columbia held a conference call with EPA to discuss issues with the non-road model and uncontrolled emissions for the out-years. Tad Aburn reported that the Interstate Air Quality Council (IAQC) met today and is addressing two key issues: 1) CAIR Plus with increased reductions from stationary sources and 2) upwind county controls. He also announced that the OTC intends to adopt CAIR Plus on June 7.

## **3. Emission Inventory: Update**

Joan Rohlf, COG/DEP, discussed the status of controlled and uncontrolled emission inventories for 2002 and 2009. She said that the point source inventory for 2002 is complete; staff still need information for 2009. She said that for the mobile source inventory for 2009, staff will try to isolate benefits of new cutpoints for state I&M programs, and benefits from Tier 2 and Heavy Duty Diesel programs. She said the goal is to have 2009 controlled and uncontrolled inventories completed by June.

## **4. Attainment Modeling: Update**

Joan Rohlf, COG/DEP, discussed the status of attainment modeling efforts for the 8-hour ozone SIP. She said that a draft protocol developed for this region is being revised. She said that Virginia DEQ has selected episodes to model, and that additional study of episodes is ongoing. She said there is still no resolution of the decision to use a 4km or 12km grid. The modeling issues between VISTAS and OTC are still being worked out. Base case results may be available at the end of June with completion of the modeling by the end of the year.

## **5. PM Source Apportionment: Report**

Dr. Russell Dickerson, University of Maryland, discussed recent research on PM source apportionment. Tad Aburn as an introduction said that the local component is mobile and that the regional component is sulfates from power plants. Russ Dickerson said that the summer of 2005 is predicted to be cooler than normal.

Russ Dickerson said that the challenge for this region will be meeting the annual average. He said that the EPA is considering lowering the standard below  $15 \mu\text{g}/\text{cm}^3$  based on epidemiological studies. Health effects may occur at levels as low as  $5 \mu\text{g}/\text{cm}^3$ . Studies also suggest that exposure to soot is a health concern and that the surface area of a fine particle is most important.

Studies carried out at Fort Meade provide a basis for determining source contributions in this region. The source of PM pollution varies by season. In summer, secondary sulfates dominate, likely resulting from power plant emissions outside of our region. Other major summer sources are ammonia and organic carbon. Secondary sulfate from industry (e.g., smelters) is also detected as a contributor in summer. In winter, local sources become more important, especially from vehicles. Sulfates and organic carbon are important sources in winter. Secondary nitrate and carbon monoxide from vehicles also become important contributors in winter. In winter, emissions from wood burning can also be detected in air samples (organic carbon and carbon monoxide).

Russ said that primary pollutant means the pollutant is emitted directly in the condensed phase. Secondary pollutant means that it is converted into a condensed phase in the atmosphere. In response to a question from Doris McLeod, Russ Dickerson said that direct emission of sulfate from local power plants hasn't been monitored and generally isn't considered as important as  $\text{SO}_2$  emissions from power plants hundreds of kilometers from the region that are transformed into sulfates over time. In response to a

question from Arnold Solomon, Russ Dickerson said that direct emission of nitrates in summer is not important because ammonium nitrate is unstable in summer and quickly dissociates to nitric acid and ammonia gas. He said that emission of SO<sub>2</sub> from gasoline and diesel is a relatively small contributor. In response to a question from Howard Simons, Russ said that different modeling tools are needed to predict the impact of pending motor vehicle emission standards, so a quantitative evaluation has not been completed. Tad Aburn said that the Tier 2, Heavy Duty Diesel, and ultra-low sulfur diesel requirements will help with PM fine. Russ agreed.

Russ Dickerson said that black carbon, or soot, is associated with both acute and chronic human health effects. There is very little contribution of black carbon from power plants. To address this pollutant, the region will need emission reductions from on- and off-road vehicles.

Organic carbon causes problems with visibility and possibly human health, and more research is required to understand this pollutant. In addition to emissions from anthropogenic mobile sources, there are a large number of natural sources of organic carbon, including pinene from Pine trees. In response to a question from Kanti Srikanth, Russ correlated pollutants with emission sources. He said that sulfur is from fuel, NO<sub>x</sub> and soot are from combustion processes, and organic carbon is both from evaporative and tailpipe emissions. He said there is an ongoing debate about primary and secondary organic carbon contributions from vehicles.

Russ Dickerson said that the National Park Service in Washington, D.C. provides excellent information on trends in both elemental and organic carbon. He said that there has been a solid downward trend in elemental carbon concentrations. There has been a weak downward trend in organic carbon, possibly because the sources are more varied and due to natural source contributions.

Gary Koerber asked what may have caused a slight drop in organic carbon concentrations starting in 1995. Arnold Solomon said that it could have been a result of provisions of the Acid Rain program. Howard Simons said that the Tier 1 standards came into effect in 1994, but because of fleet turnover probably would not cause such a noticeable impact so soon. Gasoline volatility controls also came into effect in 1995.

Russ Dickerson provided results of a study of ammonia emissions from motor vehicles conducted using a tunnel study in Baltimore. Julie Thomas asked if speed made a difference in emissions. Russ said that acceleration causes a burst of emissions because fuel burn is more rich causing more CO, NO<sub>x</sub>, hydrocarbons, and ammonia. In response to a question from Julie Thomas, Russ said that the measurements were 24 hours per day for one month. Ammonia emissions from motor vehicles are probably not a significant pollutant source for this region. Ammonia will be an optional pollutant for the states to address as part of the PM fine strategy. Ammonia emissions from chicken farming on the Delmarva Peninsula should be considered a larger source, especially in summer when the bacteria that convert urea to ammonia are more active.

Tad Aburn concluded by saying that EPA's modeling indicates that pending controls on power plants and motor vehicles should lead to resolution of the PM fine problem in the region in the future.

## **6. Control Measures Planning Session: Report**

Jeff King, COG/DEP, discussed the upcoming MWAQC strategic planning session on control measures for the 8-hour ozone SIP. He said that the entire session will focus on highlighting various programs being implemented at the local level, including LED traffic signals, green buildings, diesel retrofits, idling enforcement, wind energy purchases, etc. He provided a copy of the draft agenda. Bill Skrabak recommended that local zoning ordinances be highlighted, especially as it relates to tree canopy requirements. He said he'd send information on programs being implemented in the City of Alexandria. Jeff Harn said that Arlington County also has tree canopy requirements.

### **7. Draft Letter on Proposed Barton Amendment: Action**

Joan Rohlfs, COG/DEP, presented a draft MWAQC comment letter on the Barton Amendment to the Energy Bill. At the April 27 MWAQC meeting, members suggested that a letter be drafted to address concerns about the Barton Amendment to the Energy Bill which would provide an extension to downwind states if it is shown that upwind sources contribute significantly to the local nonattainment problem. Joan Rohlfs asked that TAC consider recommending the letter to MWAQC to send to Congressional representatives. She said that AQPAC is also opposed to the Barton Amendment because it could delay cleaner air. Alex Hekimian asked how the proposed legislation would affect this region. Joan Rohlfs said that the region plans to adopt controls to meet the 2010 attainment date so the effect wouldn't be realized until that time. Julie Crenshaw asked if the legislation would affect the Section 126 petition process. Joan said that the region would still have that option. Tad Aburn said that MDE commented on this previously and recommended that similar language be added: "If seeking extension, must adopt controls first." Alex Hekimian asked whether this region should do more because it is an upwind state. Tad Aburn said that this region has adopted a control program that is nearly identical to the closest downwind states like Pennsylvania. He said that there are areas upwind of this region that do not have the same set of controls. Flint Webb asked whether the Richmond Virginia area has adopted the same suite of measures as the Washington, D.C. region. Jim Ponticello said that the Richmond area has similar but not identical control measures. Julie Thomas asked whether attainment areas have similar controls. Tad said that national controls are needed to address area and smaller stationary sources outside the Washington, DC-MD-VA nonattainment area. Kanti Srikanth asked about the status of this amendment in Congress. Joan said that the schedule has been delayed. Tad Aburn asked if there was opposition to the letter. Kanti Srikanth and Ram Tangiara each expressed some concern that the MWAQC position in the letter is not clear as written. Howard Simons recommended that the letter be revised to include at least the language suggested by Tad Aburn and that the letter then be circulated to the members again for review. The group agreed.

### **8. Draft Letter on Proposed Military Readiness Exemption: Action**

Jeff King, COG/DEP, presented a draft MWAQC comment letter on the proposed Clean Air Act exemptions for military readiness activities. He said the letter was drafted to respond to concerns about potential exemptions from General Conformity requirements. The exemption would allow the Department of Defense to seek 3 year extensions to General Conformity. Howard Simons said the President already has the ability to exempt military readiness activities without this new legislation. The group agreed to recommend the letter as written to MWAQC.

### **9. Set Date for Next Meeting, Future Agenda Items, Adjourn: June 10, 2005**

The TAC will meet next on June 10, 2005 from 10 a.m. to 12 noon. Suggested future topics include a Commuter Connections briefing and a discussion of Mobile6 Modeling inputs (Daivamani Sivasailam provided copies of two memos that address VIN decoding and daily and seasonal VMT adjustments that require TAC consideration). There being no further business, the meeting was adjourned at 1:30 p.m.