

**Attachment**

**Technical Support Information for Letter to EPA Region III**

We do not believe there is adequate technical support for EPA's December 5, 2008 proposal to include Montgomery and Prince George's County in the Baltimore nonattainment area. The following technical points need to be considered:

- 1) The current air quality control regions and planning processes are effectively controlling emissions and improving air quality. The Washington region attained the 2006 24-hour PM<sub>2.5</sub> NAAQS in 2006. The Baltimore region may have attained the 2006 24-hour PM<sub>2.5</sub> NAAQS in 2008.
- 2) There are significant new control programs that are being implemented now that will result in improved air quality in both regions, Baltimore and Washington, in 2009.
- 3) EPA's technical analysis demonstrating that Montgomery County and Prince George's County, Maryland, contribute significantly to the Baltimore's fine particle nonattainment is flawed because it relies on preliminary inventory data, and doesn't accurately characterize VMT and population growth in the affected counties.

Emissions Reductions and Improved Air Quality

Governments in the Washington region have taken steps to reduce emissions of ozone and fine particle precursors. Between 2002 and 2009, emissions were reduced by approximately 99.54 tons per ozone season day VOC and 235.17 tons per ozone season day NO<sub>x</sub>. While SO<sub>2</sub> and PM<sub>2.5</sub>-direct emissions increased 8,537.54 and 1,184.77 tons per year respectively during this period, SO<sub>2</sub> emissions are expected to decrease substantially once the Maryland Healthy Air Act starts providing benefits beginning 2009. This control program is further discussed below in this document. Sulfate and nitrate are the most important fine particles constituents in the Baltimore region, therefore, significant reductions in precursor emissions (SO<sub>2</sub> and NO<sub>x</sub>) should cause further reductions in fine particle concentrations throughout the region.

Washington, DC and Baltimore Regions Close to Attaining the 2006 PM<sub>2.5</sub> NAAQS

Air quality in the region has improved. Design values for both ozone and fine particles are decreasing over time even when weather conditions are favorable to their formation. This improvement is expected to continue from the programs committed to in the aforementioned air quality plans.

Currently, air quality monitoring data show that the Washington region is monitoring attainment of both the 1997 and 2006 fine particle NAAQS, see table below.

**Design Values for the Washington, DC-MD-VA Nonattainment Area**

<b>Period</b>	<b>Annual PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>	<b>24-Hour PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>	<b>8-Hour Ozone (ppb)</b>
2003-05	14.6	38	91
2004-06	14.5	37	91
2005-07	14.2	35	91
2006-08	-	-	87

On January 12, 2009, EPA determined that the Metropolitan Washington, DC-MD-VA nonattainment area has attained the 1997 PM<sub>2.5</sub> NAAQS. This determination is based upon quality assured, quality controlled, and certified ambient air monitoring data that show that the area has monitored attainment of the 1997 PM<sub>2.5</sub> NAAQS since the 2004-2006 monitoring period, and continues to monitor attainment of the standard based on the 2005-2007 data. This action suspends the requirements for the area to submit attainment demonstrations and associated reasonably available control measures, reasonable further progress plans, contingency measures, and other planning SIPs related to attainment of the 1997 PM<sub>2.5</sub> NAAQS for so long as the area continues to attain the 1997 PM<sub>2.5</sub> NAAQS.

The Baltimore region is also very close to attaining the 2006 PM<sub>2.5</sub> NAAQS suggesting that the control programs adopted in the region have been successful and that splitting up two independent air quality control regions solely to address pollutant transport is unwarranted. As shown in the table below, the design value of 36 µg/m<sup>3</sup> for the period 2006-08 is based on three quarters worth of preliminary data for 2008. A very early preliminary assessment of the fourth quarter data indicates that the 2006-08 design value might come down to 35 µg/m<sup>3</sup>, which means that there is a possibility that the Baltimore region attained the 2006 24-hour PM<sub>2.5</sub> standard in 2008.

**Design Values for the Baltimore PM<sub>2.5</sub> Nonattainment Area**

<b>Period</b>	<b>24-Hour PM<sub>2.5</sub> (µg/m<sup>3</sup>)</b>
2003-05	41
2004-06	39
2005-07	37
2006-08	36*

\* Based on only three quarters worth of preliminary 2008 data provided by Maryland Department of the Environment as of January 15, 2009.

Baltimore's 24 hour PM<sub>2.5</sub> monitor data shows a downward trend since 2005, dropping by 2 µg/m<sup>3</sup> in each design value period.<sup>1</sup> The latest preliminary design value for 2006-2008 shows further improvement. Undoubtedly the downward trend in Baltimore's fine particle levels will continue due to the Healthy Air Act that will begin implementation this year. The downward trend of fine particle levels strongly suggests that control measures in Maryland SIPs as well as in the Washington, DC-MD-VA SIPs are working to improve air quality in both metropolitan areas. The decline in Baltimore's fine particle levels also suggests that upwind sources are effectively controlling emissions (see

discussion below) and that contribution is not a significant factor in Baltimore's "nonattainment" problem.

#### Significant New Control Programs Pending

Significant further improvement in air quality is anticipated as a result of implementation of Maryland's Healthy Air Act (HAA). The Maryland Healthy Air Act was developed with the purpose of bringing Maryland into attainment with the NAAQS for ozone and fine particulate matter by the federal deadline of 2010. The HAA requires reductions in nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and mercury emissions from large coal burning power plants. The HAA regulations became effective on July 16, 2007.

Over 95 percent of the air pollution emitted from Maryland's power plants comes from the largest and oldest coal burning plants. The emission reductions from the Healthy Air Act come in two phases. The first phase requires reductions in the 2009/2010 timeframe and, compared to a 2002 emissions baseline, reduce NO<sub>x</sub> emissions by almost 70%, SO<sub>2</sub> emissions by 80%, and mercury emissions by 80%. The second phase of emission controls occurs in the 2012/ 2013 timeframe. At full implementation, the HAA will reduce NO<sub>x</sub> emissions by approximately 75% from 2002 levels, and SO<sub>2</sub> emissions will be reduced by approximately 85% from 2002 levels.

In the past several years the Washington region has adopted and submitted SIPs that have significantly reduced emissions of ozone and fine particle precursors. Between 2002 and 2009, emissions were reduced by approximately 99.54 tons per ozone season day for VOC and 235.17 tons per ozone season day for NO<sub>x</sub>. While SO<sub>2</sub> and PM<sub>2.5</sub>-direct emissions increased 8,537.54 and 1,184.77 tons per year respectively during this period, SO<sub>2</sub> emissions are expected to decrease substantially once the Maryland Healthy Air Act starts providing benefits beginning 2009. This control program is further discussed below in this document. Sulfate and nitrate are the most important fine particles constituents in the Baltimore region, therefore, significant reductions in precursor emissions (SO<sub>2</sub> and NO<sub>x</sub>) should cause further reductions in fine particle concentrations throughout the region.

#### Flawed Technical Analysis

EPA's August 18 technical analysis concluded that Montgomery and Prince George's County should be declared attainment along with the rest of the Washington region. The December analysis came to a different conclusion based on the same data. We believe that EPA's technical analysis underlying the December 5<sup>th</sup> proposal contains flawed analysis. Specifically, the analysis uses preliminary emission inventory data and it overestimates VMT growth for the affected counties.

EPA's technical analysis underlying the December 5<sup>th</sup> proposal is based on the 2005 National Emissions Inventory (NEI) version 1, a preliminary inventory that lacks the technical review and refinement of the base year 2002 inventory.

The trend in VMT also indicates whether a particular county is likely to contribute to the air quality problem in the future to a neighboring downwind region. We have concerns regarding the calculation for the “Nine Factor Analysis,” specifically that it overstates vehicle miles traveled (VMT) in Prince George’s County by 13%. Below is the table showing VMT in 2005 and 2007:

**VMT Trends for Montgomery and Prince George's Counties**

County/City	VMT (millions)		VMT Change (2005-07)
	2005	2007	
Montgomery	7,513	7,473	-0.5%
Prince George’s	8,901	8,755	-1.6%

Source: [http://www.marylandroads.com/SHAServices/trafficReports/Vehicle\\_Miles\\_of\\_Travel.pdf](http://www.marylandroads.com/SHAServices/trafficReports/Vehicle_Miles_of_Travel.pdf)

It is clear from the above table that the VMT has **declined** between 2005 and 2007 in these two counties. Together with cleaner fuels and vehicles, this must have led to a decline in emissions during this period. This trend is expected to continue in the future with the region promoting public transportation and the residents trying to avoid traffic congestion. With a growing number of cleaner vehicles running on cleaner fuels expected in the future, emissions contributions to downwind areas are only expected to be lower.

**County Growth Trends for the Metropolitan Washington Region**

The trend in population change of a county is an indicator of how that particular county will impact the air quality of areas located downwind in the future. Below is a table showing change of population in different counties in the metropolitan Washington region during the period 2005-07:

**Regional Growth Trends for the Washington, DC Region**

County/city	Pop (2005)	Pop (2007)	Pop change
Montgomery	921,016	930,813	1%
Prince George's	838,156	828,770	-1%
Calvert	86,813	88,223	2%
Charles	137,273	140,444	2%
Frederick	219,443	224,705	2%
DC	582,049	588,292	1%
Arlington	199,761	204,568	2%
Fairfax	1,005,616	1,010,241	0.5%
Loudoun	253,631	278,797	10%
Prince William	345,349	360,411	4%
Alexandria	137,602	140,024	2%
Anne Arundel	510,088	512,154	0.4%
Baltimore	782,885	788,994	1%
Harford	237,317	239,993	1%
Howard	267,779	273,669	2%

Carroll	166,961	169,220	1%
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Source: US Census Bureau web-site:

<http://www.census.gov/popest/counties/tables/CO-EST2007-01-24.xls>

It is clear from the above table that population change rate in Montgomery county is either same or less compared to most other jurisdictions in Baltimore and Washington regions. Population decreased in Prince George's county between 2005 and 2007. Assuming this trend continues these two counties are not expected to impact air quality of the Baltimore region adversely in the future based on population growth.

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In conclusion, Montgomery County and Prince George's County should be designated in attainment and be included in the metropolitan Washington, DC-MD-VA air quality control region for the 2006 24-hour PM<sub>2.5</sub> NAAQS. EPA should issue a Clean Data Determination for the Baltimore region once air quality monitoring data indicate it has attained the NAAQS. The two regions should then continue to strengthen air quality programs, including preparing redesignation requests and maintenance plans, as needed, to continue to improve air quality.