INTER-AGENCY MEMORANDUM

To: Transportation Policy and Planning Administration, DDOT

From: Air Quality Division, Environmental Protection, DDOE

Date: February 28, 2012

Re: 2025 PM2.5 budget safety margin – Mobile budgets for the PM2.5 NAAQS Maintenance Plan for the DC-MD-VA Nonattainment Region

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At TAC and MWAQC recently, there has been lively discussion about future year motor vehicle emissions budgets (MVEBs) for the PM2.5 maintenance plan being developed by the DC-MD-VA region. To review, COG DTP staff recently completed MOVES runs for milestone years for the maintenance plan:

- 2002 (Base Year)
- 2007 (Attainment Year)
- 2017 (Interim Year)
- 2025 (Out Year)

The MOVES analysis also included the emissions estimates for the transportation plan's horizon year 2040. DTP staff proposed including a 10 or 15 percent margin of safety for both PM2.5 and NOx in the MVEBs for 2017 and 2025 due to uncertainties in the transportation realm. Both Maryland and District air agencies are questioning whether a margin of safety is necessary due to uncertainties in air quality. At last week's MWAQC, MDE suggested setting the NOx budget at 34,000 tpy instead of 41,709 tpy for 2017 (approx. 18% below the inventory). MDE's suggestion was based on their concerns about achieving the air quality goals for PM2.5 and ozone, and for mitigating atmospheric deposition into the Chesapeake Bay.

We have discussed with you a compromise position – to increase the PM2.5 budget by a smaller margin in exchange for a proportionate decrease in the NOx budget. There was a very brief discussion of this at TAC.

<u>Role of TERMs</u>

Mobile emissions with MOVES were recently presented at TAC and MWAQC by COG staff:

Milestone Year	PM2.5 (tpy)	NOx (tpy)	Notes/Comments
2002	3,959	126,953	Base year
2007	3,452	91,639	Attainment year
2017	**1,787**	**41,709**	**Intermediate year**
2025	**1,322**	**27,400**	**SIP out year - If budgets set without a margin**
2040	1,350	26,817	Conformity 2040 horizon year – note PM2.5 shortfall & NOx surplus

DDOE's understanding is that the mobile emissions include TCMs that were in the SIPs. We also understand that adjustments for TERMs, ongoing and/or new, have not been applied to the mobile emissions data shown above.

DDOE is suggesting that a margin of safety be provided for the PM2.5 budget to address the potential shortfall in 2040, but only by the amount needed. NOx budgets will be tightened proportionately by using NOx as a substitute for PM2.5. We are assuming that DOTs/TPB will utilize the available TERMs to partially mitigate the PM2.5 shortfall. For example:

Conformity milestone year	PM2.5 (tpy)	NOx (tpy)	Comments/Notes
2040 mobile inventory	**1,350**	**26,817**	**Emissions inventory without TERMs**
2040 TERMs credits	-15	-300	**TERMs to mitigate part of the PM2.5 shortfall;** Approx. based on old data; COG/DOTs to provide the MOVES based data
2040 emissions with TERMs	**1335**	**26,517**	**Emissions inventory for conformity test**
2025 Budgets without a margin	**1,322**	**27,400**	
2040 Conformity Shortfall/Surplus	**-13**	883	**Actual PM2.5 margin needed for 2040 conformity**
2025 Budgets with PM2.5 safety margin	**1,322 + 1.25% = 1,338**	**27,400 – 1.25% = 27,058**	**1.25% PM2.5 margin provided while tightening NOx by 1.25%**
2040 conformity with 1.25% margin budget	**1,338 – 1,335 = 3**	**27,058 – 26,517 = 541**	

In summary, DDOE is supportive of providing a nominal safety margin when setting PM2.5 SIP budgets for 2025 in order to alleviate concerns regarding a conformity determination for the 2040 horizon year. DDOE is open to discussing the possibility of a PM2.5 margin of safety in the 2017 budget by using the same approach described above. However, it is not clear at this time if there is a conformity issue for analysis years 2018 thru 2024.