

## **Memorandum**

Date: February 2, 2007  
*Revised* February 13, 2007

To: TPB Technical Committee

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Subject: Transportation Control Measures (TCMs) and Vehicle-Based Measures  
in the 8-hour ozone SIP

## **Background**

The Metropolitan Washington Air Quality Committee (MWAQC) has been developing the Washington DC-MD-VA region's state implementation plan (SIP) to meet the 8-hour ozone standard. MWAQC has been soliciting control strategies from local governments around the region, primarily to be included in a local "voluntary bundle" list in the SIP. In response to this request a number of control measures (area, point and mobile sources) have been submitted for consideration and inclusion in the SIP.

TPB had sent a letter to MWAQC in December in response to the project solicitation, offering to review the list of submitted projects and provide support in two areas: (1) to provide assistance in analyzing the measures to be consistent with the methodologies used in TERM analysis, and (2) to review the list to avoid duplication of credits in conformity and the SIP. In response to this request MWAQC accepted TPB's review and comment offer, and recommended that TPB and MWAQC technical committees work together in this regard to review and reach agreement on the handling of these SIP measures. The MWAQC letter also transmitted a preliminary list of measures which included a number of vehicle-based measures such as hybrid vehicles and heavy duty diesel vehicle retrofit projects.

## **Subcommittee Review**

The Travel Management Subcommittee met on January 23, 2007 and reviewed the letter and the preliminary list of vehicle-based control measures for inclusion in the SIP. The subcommittee directed staff to review the measures: 1) to identify any

projects for which credits were taken in past conformity assessments, and (2) to review the technical methods used in the estimation of potential emissions reductions to ensure consistency between conformity and the SIP.

### ***TPB Technical Committee Review***

*The TPB Technical Committee discussed the memorandum at its February 2, 2007 meeting and provided the following comments: The Committee agreed that even though the benefits from many of the projects in the voluntary bundle were small, once they are included in the bundle they should not be considered for conformity findings even if no benefits were associated with the projects as part of the SIP. They also agreed that the TPB reply to MWAQC should be explicit that they should not consider emissions reduction programs being administered by the Commuter Connections such as the regional Telework, Employer Outreach, etc.*

### ***Local Government Initiatives Subcommittee***

*The MWAQC Technical Advisory Committee's Local Government Initiatives Subcommittee discussed the memorandum at its February 9, 2007 meeting and provided the following comments: there is not initial consensus among participating jurisdictions on whether local mobile measures should be included in the voluntary bundle for credit. Members understood the importance of having measures available to help demonstrate conformity should the need arise. Members also recognized that mobile measures represent a significant portion of the bundle and could be needed to backfill other underperforming measures. Local government representatives agreed to discuss this issue internally with transportation and environmental program staff to reach a final decision on handling of their respective mobile-source measures.*

### **Status Report**

Attachment 1 shows the list of preliminary projects submitted by the local governments for inclusion in the SIP. The list shows previous commitments in the 1-hour SIP and the new additions. The two categories of transportation projects are "low emission vehicle (LEV) purchases" and "diesel retrofits". Comparing the list against the TERM Tracking Sheet indicated a few projects for which credits were taken during previous conformity assessments. The LEV purchase category has hybrid vehicles, CNG vehicles, E-85 vehicles and other unknown generic LEVs. Under this category, credits were previously taken for CNG vehicle projects in the City of Greenbelt. The diesel retrofits category includes diesel hybrid electric buses, CNG buses, direct oxidation catalysts and chip reflash for school, transit buses, and class 8 trucks, diesel particulate filters for transit buses. Under the diesel retrofits category credits were taken for all the CNG transit buses in Montgomery County. If the local governments decide to advance these projects in the SIP they will be removed from consideration for conformity credits.

### Low emission vehicle purchases

In order to take emissions credit, the emissions from the LEV vehicles have to be lower than the Federal Tier 2 vehicle emission standards. Similarly E-85 vehicles do not satisfy this requirement and hence should not be considered for emissions credit. In the LEV list, Montgomery County, City of Greenbelt and the District of Columbia's LEV vehicles need additional information such as type of vehicle that the jurisdictions will be purchasing to estimate the potential benefits of these low emission vehicles. Additionally some of the vehicles in the City of Greenbelt were introduced prior to 2002 and will not be eligible since the base year for the 8-hour ozone SIP is 2002.

Hybrid vehicle purchases under the LEV category for Arlington County, Alexandria, Falls Church, Loudoun County, Prince George's County, M-NCPPC, and Fairfax Counties appear to be new submissions; they will be analyzed using a template developed by VDOT.

*Attachment 2 shows the detailed analysis of staff review described in the previous paragraphs and illustrates and DTP staff findings whether emissions credit will be available or not for each project .*

### Diesel Retrofits

Emissions credit will be estimated for all the school bus and transit bus retrofits as well as the hybrid transit buses in Montgomery County since no credits were taken in the past.

### ***Next Steps***

*Staff finished preliminary emissions analysis and hope to complete further quality assurance of the emissions work in the next couple of days. A memorandum will be presented to the TPB on February 21, 2007 and subsequent formal transmission to MWAQC.*

DRAFT (January 12, 2007)  
**Attachment 1. Summary of Potential Voluntary Measures Commitments (2002-2009)**  
**Washington, DC-MD-VA Ozone Nonattainment Area**

	Jurisdiction	Commitments in 1 hour Ozone SIP	New Additional Commitments for 8-hour Ozone SIP (a)
<b>Regional Wind Power Purchase Program (kWh/year)</b>			
	Montgomery County (b)	28,000,000	23,809,091
	Prince George's County		7,611,801
	Arlington County		2,340,000
	Fairfax County		5,800,000
	District of Columbia		16,500
	<b>Total</b>	<b>28,000,000</b>	<b>39,577,192</b>
<b>Clean Energy Rewards Program (MWh/year)</b>			
	Montgomery County		31,900
	<b>Total</b>		<b>31,900</b>
<b>Renewable Portfolio Standards (kWh/year)</b>			
	District of Columbia	-	-
	<b>Total</b>	-	-
<b>LED Traffic Signal Retrofits (# of intersections)</b>			
	VDOT	0	864
	MDOT	0	15
	District of Columbia	0	-
	Montgomery County	0	250
	Arlington County	0	271
	City of Alexandria	0	239
	City of Falls Church	0	818
	<b>Total</b>		<b>-</b>
<b>Building Efficiency/Energy Performance Contracting (kWh/year savings)</b>			
	Fairfax County	0	6,630,675
	Arlington County	0	1,500,000
	City of Greenbelt	0	230,000
	Montgomery County	0	-
	City of Falls Church	0	-
	City of Alexandria	0	-
	Calvert County	0	-
	<b>Total</b>	<b>0</b>	<b>8,360,675</b>
<b>Diesel Retrofits (# of vehicles)</b>			
	Fairfax County School Bus	1,329	Complete
	Fairfax County Class 8 Trucks	0	113
	Fairfax County Fire Equipment	0	50
	Fairfax County DOT (DPF)	148	95
	Fairfax County DOT (idling)		95
	Montgomery County	0	253
	Loudoun County	0	237
	<b>Total</b>		<b>-</b>
<b>Low-Emission Vehicle Purchases (# of vehicles)</b>			
	Arlington County	0	69
	Fairfax County	32	65
	Montgomery County	5	178
	Prince George's County	3	8
	M-NCPPC Prince George's	0	23
	Loudoun County	0	25
	District of Columbia	0	678
	City of Alexandria	0	55
	City of Greenbelt	0	7
	City of Falls Church	0	7
	<b>Total</b>	<b>40</b>	<b>1113</b>
<b>Low-VOC Paint (# of gallons per ozone season day)</b>			
	Prince George's County	5	
	M-NCPPC Prince George's	15	
	Fairfax County	40	
	MDOT	502.5	
	Arlington County		0.00
	City of Alexandria		0.00
	City of Greenbelt		0.00
	Calvert County		0.00
	<b>Total</b>	<b>562.5</b>	<b>0.00</b>
<b>Enhanced Enforcement (solvent machine replacement/idling)</b>			
	Montgomery County	0	18 units
	Loudoun County		No Idling Policy
<b>TOTAL</b>			
	NOx		
	VOC		

ATTACHMENT 2

Low-Emission And Diesel Retrofit (Heavy Duty) Vehicles

	Number of Veh.	Yr of Purchase	Comment
<b>Arlington County</b>			
Toyota Prius Hybrid	58	2002+	creditable
Ford Escape Hybrid	5	2004+	creditable
Chevy Silverado	6	2004+	creditable
<b>Fairfax County</b>			
Toyota Prius Hybrid	12	2002	creditable
Toyota Prius Hybrid	20	2003	creditable
Toyota Prius Hybrid	27	2004	creditable
Ford Escape Hybrid	29	2005	creditable
Ford Escape Hybrid	1	2006	creditable
Plug-in Conversion	1	2006	creditable
HD School Bus DOC alone	576		creditable
HD School Bus DOC + Chip Reflash	436		creditable
HD Transit bus (DFF)	95		no Nox benefit
HD Fairfax County DOT (idling)	95		Need additional information
HD Fire Truck and Other Class 8 (DOC)	163		creditable
<b>Montgomery County</b>			
HD Diesel/ Electric Hybrid Transit Bus*	5	2006	creditable
HD Diesel/Electric Hybrid Transit Bus*	9	2007	creditable
HD CNG Transit Bus*	73	2002-2005	credited in conformity
HD School Bus (DOC, Chip Reflash)	253	varies	creditable
E85 Ethanol	89	2002-2005	veh will not provide additional benefit over TIER II
<b>Prince George's County</b>			
Toyota Prius Hybrid	1	2003	creditable
Toyota Prius Hybrid	1	2003	creditable
Toyota Prius Hybrid	1	2003	creditable
Honda Civic Hybrid	2	2003	creditable
Honda Civic Hybrid	1	2004	creditable
Honda Civic Hybrid	1	2004	creditable
Honda Civic Hybrid	1	2005	creditable
Honda Civic Hybrid	1	2006	creditable
Ford Escape Hybrid	2	2007	creditable
<b>M-NCPPC Prince George's</b>			
Honda Civic Hybrid	1	2004	creditable
Honda Civic Hybrid	7	2005	creditable
Honda Civic Hybrid	3	2006	creditable
Honda Civic Hybrid	3	2006	creditable
Ford Escape Hybrid	4	2006	creditable
Ford Escape Hybrid	5	2006	creditable
Unknown	2/yr	2007-2009	not enough information
<b>Loudoun County</b>			
Ford Escape Hybrid	25	2005-2006	creditable
HD School Bus (DOC alone)	237		creditable
<b>District of Columbia</b>			
LEV/AFV	201	2002	not enough information
LEV/AFV	173	2003	not enough information
LEV/AFV	77	2004	not enough information
LEV/AFV	222	2005	not enough information
LEV/AFV	461	2006	not enough information
<b>City of Alexandria</b>			
Mid and small sedans and SUVs, flexfuel E85	40	2003	veh will not provide additional benefit over TIER II
Toyota Prius Hybrid	3	2003	creditable
Toyota Prius Hybrid	10	2005	creditable
Toyota Prius Hybrid	1	2005	creditable
Ford Escape Hybrid	1	2005	creditable
<b>City of Greenbelt</b>			
CNG Sedan	1	2005	credited in conformity
CNG Sedan	1	2005	credited in conformity
CNG Van	1	1997	credited in conformity
CNG Vans	3	1999 - 2002	before base year
CNG Pick-up Truck	1	2004	credited in conformity
Flex-Fuel Sedan	1	2005	veh will not provide additional benefit over TIER II
Low Emission Vehicle	1	2006	not enough information
Low Emission Vehicle	1	2009	not enough information
<b>City of Falls Church</b>			
Ford Escape Hybrid	1	2006	creditable
Honda Civic Hybrid	1	2006	creditable
Chevy Silverado Hybrid	3	2007	creditable
Ford Escape Hybrid	2	2007-2008	creditable

