

Memorandum

Date: December 8, 2006
To: MWAQC TAC
From: Sunil Kumar, COG/MWAQC
Subject: Mobile emissions control program benefits in 2008 and 2009 for 8-hour ozone SIP

The purpose of this memorandum is to provide an update to the Technical Advisory Committee on the benefits of post-2002 mobile emissions control programs in Reasonable-Further-Progress (RFP) year 2008 and Attainment year 2009. These benefits are required to be provided as part of the 8-hour ozone SIP.

For this purpose, one mobile inventory each for 2008 and 2009 without any post-2002 controls were developed in consultation with the EPA. Fully controlled 2008 and 2009 mobile inventories (with all 2008 & 2009 controls) were developed earlier as part of RFP requirements for 8-hour ozone SIP. The difference between the 2002 controlled 2008 and 2009 inventories and the fully controlled 2008 and 2009 inventories provided benefits from all post-2002 mobile control programs in 2008 and 2009 respectively.

Following are the post-2002 mobile control programs which provided benefits in 2008 and 2009.

| <u>2008</u> | <u>2009</u> |
|-------------------------|-------------------------|
| 2008 I/M and cut-points | 2009 I/M and cut-points |
| 2008 NOx rebuild effect | 2009 NOx rebuild effect |
| Tier 2 | Tier 2 |
| 2007 HDDV rule | 2007 HDDV rule |

Details of the inputs used in all four inventories mentioned above are listed below.

Description of Mobile6 Inputs:

BY 2002 controlled 2008 Mobile Emissions

- (a) Mob6 Emissions Factors:
 - **2002 control programs** (2002 I/M programs and cut-points, 2002 NOx rebuild effect, no Tier 2, no HDDV 2007 rule), Registration data/Diesel sales fraction/VMT mix valid for 2008
- (b) **2008 VMT**

BY 2002 controlled 2009 Mobile Emissions

- (a) Mob6 Emissions Factors:
 - **2002 control programs** (2002 I/M programs and cut-points, 2002 NOx rebuild effect, no Tier 2, no HDDV 2007 rule), Registration data/Diesel sales fraction/VMT mix valid for 2009
- (b) **2009 VMT**

Fully controlled 2008 inventory:

(a) Mob6 Emissions Factors:

- **2008 control programs** (2008 I/M programs and cut-points, 2008 NOx rebuild effect), Registration data/Diesel sales fraction/VMT mix valid for 2008

(b) **2008 VMT**

Fully controlled 2009 inventory:

(a) Mob6 Emissions Factors:

- **2009 control programs** (2009 I/M programs and cut-points, 2009 NOx rebuild effect), Registration data/Diesel sales fraction/VMT mix valid for 2009

(b) **2009 VMT**

Post-2002 Mobile Control Programs Benefits in 2008

BY 2002 controlled 2008 Mobile Emissions – Fully controlled 2008 inventory =

VOC - 6.19 tpd

NOx - 29.67 tpd

Post-2002 Mobile Control Programs Benefits in 2009

BY 2002 controlled 2009 Mobile Emissions – Fully controlled 2009 inventory =

VOC - 7.17 tpd

NOx - 37.63 tpd

Mobile Inventories and Benefits

| 2008 Controlled | | BY 2002 Controlled 2008 | | 2009 Controlled | | BY 2002 Controlled 2009 | | 2008 Benefits | | 2009 Benefits | |
|-----------------|--------|-------------------------|--------|-----------------|--------|-------------------------|--------|---------------|-------|---------------|-------|
| A | | B | | C | | D | | (B-A) | | (D-C) | |
| VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx |
| 70.98 | 160.30 | 77.17 | 189.97 | 66.68 | 146.53 | 73.85 | 184.16 | 6.19 | 29.67 | 7.17 | 37.63 |