

Memorandum

Date: May 8, 2007
To: MWAQC TAC
From: Sunil Kumar, COG/MWAQC
Subject: Technical changes in 8-hour ozone SIP (March 15, 2007 version).

The purpose of this memorandum is to update the Technical Advisory Committee on the technical changes made to the March 15, 2007 version of the 8-hour ozone SIP.

Staff made the following technical corrections to the inventories:

1. BY 2002 area and nonroad source emissions changes suggested by Virginia Department of Environmental Quality (Table A & B)
2. Future year area and nonroad source emissions changes due to changes in base year emissions and application of OTC rules (MERR, Solvent Cleaning, Consumer Products, AIM Coating) to a revised list of SCCs (Table A & B)

Emissions inventory changes do not affect:

- a. RFP results as they lower both target and actual 2008 inventories and the latter remains below the target (Table C).
- b. RFP and Attainment contingency results as emissions reduction requirements do not change and also benefits from portable fuel container emission reductions used to meet both RFP and attainment contingency requirements do not change.

Staff also made the following change in the SIP document:

WOE analyses in chapter 10 was revised to include a summary of various CMAQ modeling uncertainty analyses provided by the University of Maryland that are in the March SIP Appendix G, Attachment 15.

Base year 2002, RFP year 2008 and Attainment year 2009 inventories and RFP calculations are provided in Attachment 1. Details of base and future year emissions and related SIP documentation changes are provided in Attachment 2.

Table A – VOC Emissions Changes

	2002 (tpd)			2008 (tpd)			2009 (tpd)		
	March	May	Diff.	March	May	Diff.	March	May	Diff.
Area	195.43	192.64	2.78	187.20	181.59	5.61	184.31	179.10	5.21
Nonroad Source (Non-NR Model)	1.93	2.22	-0.29	2.43	2.64	-0.21	2.52	2.73	-0.21
Total	197.36	194.87	2.49	189.63	184.23	5.39	186.83	181.83	5.00

Table B – NOx Emissions Changes

	2002 (tpd)			2008 (tpd)			2009 (tpd)		
	March	May	Diff.	March	May	Diff.	March	May	Diff.
Area	24.25	24.25	0.00	26.93	26.93	0.00	27.39	27.39	0.00
Nonroad Source (Non-NR Model)	11.47	11.53	-0.06	11.98	12.01	-0.03	12.26	12.29	-0.03
Total	35.72	35.78	-0.06	38.91	38.94	-0.03	39.65	39.68	-0.03

Table C – RFP Target and Actual 2008 Inventories

Base Year 2002 (tpd)	RFP Target (2008) (tpd)	2008 Controlled (tpd)
448.28	370.45	359.03

Attachment 1

Base Year 2002, Controlled 2008 and 2009 Emissions by Source

VOC Emissions

	2002	2008 Controlled	2009 Controlled
	t/d	t/d	t/d
Point	12.91	13.98	14.31
Area	192.64	181.59	179.10
Non-road	125.79	92.48	88.66
On-road	116.94	70.98	66.68
Total	448.28	359.03	348.74

NOx Emissions

	2002	2008 Controlled	2009 Controlled
	t/d	t/d	t/d
Point	220.60	229.36	113.03
Area	24.25	26.93	27.39
Non-road	85.72	76.91	75.10
On-road	266.65	160.30	146.53
Total	597.22	493.49	362.05

RFP Calculations

Source	Base Year 2002	RFP Adj 2002	RFP Adj 2008	Non-creditable (RFP Adj 2002 - RFP Adj 2008)	Adj BY 2002 (BY 2002 - Non-creditable)	RFP Target (2008)	2008 Controlled
	t/d	t/d	t/d	t/d	t/d	t/d	t/d
Point	12.91	12.91	12.91	0.00	12.91		13.98
Area	192.64	192.64	192.64	0.00	192.64		181.59
Non-road	125.79	125.79	125.79	0.00	125.79		92.48
On-road	116.94	166.55	154.10	12.45	104.49		70.98
Total	448.28	497.89	485.44	12.45	435.83	370.45	359.03

Attachment 2

BY 2002 Emission Inventory Changes

a. Change in Area & Nonroad Source VOC Emissions

Source (SCC)	Affected Jurisdiction	Ozone Season Day (tpd)		Annual (tpy)	
		March 15, 2007 SIP	After VA Comments	March 15, 2007 SIP	After VA Comments
Traffic Paint/Lane Markings (2401008000)	All Virginia Counties	1.83	1.47	476.80	381.44
Industrial Maintenance (2401100000)	All Virginia Counties	2.93	2.35	762.88	610.30
Graphic Arts (2425000000)	All Virginia Counties	4.77	2.94	1239.68	757.64
Military Aviation (2275001000)	Fairfax	0.34	0.55	123.01	200.68
Military Aviation (2275001000)	Prince William	0	0.07	0	27.36
General Aviation (2275050000)	Prince William	0	0.004	0	1.60

b. Change in Nonroad Source NOx Emissions

Source (SCC)	Affected Jurisdiction	Ozone Season Day (tpd)		Annual (tpy)	
		March 15, 2007 SIP	After VA Comments	March 15, 2007 SIP	After VA Comments
Military Aviation (2275001000)	Fairfax	0.05	0.07	16.43	26.82
Military Aviation (2275001000)	Prince William	0	0.03	0	11.64
General Aviation (2275050000)	Prince William	0	0.001	0	0.27

c. Change in Nonroad Sources CO Emissions

Source (SCC)	Affected Jurisdiction	Ozone Season Day (tpd)		Annual (tpy)	
		March 15, 2007 SIP	After VA Comments	March 15, 2007 SIP	After VA Comments
Military Aviation (2275001000)	Fairfax	0.34	0.55	123.37	201.48
Military Aviation (2275001000)	Prince William	0	0.20	0	71.52
General Aviation (2275050000)	Prince William	0	0.14	0	50.38

2. BY 2002 Emission Inventory Document Changes

- a. Section 1.6 (Summary of the Base Year Emissions Inventory) - Table 1-1: Emissions for area and nonroad sources and emissions totals for VOC, NOx, and CO updated for both OSD and Annual periods.
- b. Section 3.4.2.3 (Surface Coating) – Table at page 3-23 updated for OSD for Highway Markings and Industrial Maintenance categories.
- c. Section 3.4.2.4 (Graphic Arts) – Table at page 3-25 updated for OSD.
- d. Section 3.4.7.2 (General Aviation) – Table at page 3-87 updated for both OSD and Annual periods.
- e. Section 3.4.7.3 (Military Aviation) – Table at page 3-89 updated for both OSD and Annual periods.
- f. Section 4.2 (Summary of onroad mobile source emissions) – Table at page 4-3 updated to include emissions at 2 decimal points for the Annual period.
- g. Appendix C1 (Area & Nonroad emissions spread-sheet) – Updated to included updated emissions for Virginia area and nonroad categories mentioned above.

Future Year Inventory Changes

- a. Due to BY 2002 emissions inventory changes – Projected Virginia area and non-road VOC and NOx uncontrolled and controlled 2008, 2009, 2010 and 2011 inventories for the above mentioned categories were revised.
- b. Due to application of area source rules to a revised list of SCCs – Projected controlled emissions for Virginia and Maryland for future years were revised following change in application of MERR, AIM Coating, Solvent Cleaning, and Consumer products rules to a revised list of SCCs.

Revised List of Area Source SCCs and Corresponding Rules

Control	SCC	DC	MD	VA	SCC Description
MERR	2401005000	x		x	Automobile Refinishing.
AIM	2401001000	x			Architectural Surface Coatings - All Solvent Types
	2401002000		x	x	Solvent-based Architectural Surface Coatings
	2401003000		x	x	Water-based Architectural Surface Coatings
	2401008000	x	x	x	Traffic Paints
	2401100000	x	x	x	Industrial Surface Coatings - Industrial Maintenance
	2401200000	x	x	x	Industrial Surface Coatings - Other Special Purposes
Solvent Cleaning	2415345000	x		x	Surface Cleaning, Solvent Degreasing - Cold Cleaning Manufacturing
	2415360000	x		x	Surface Cleaning, Solvent Degreasing - Cold Cleaning Automobile
Consumer Products	2460100000	x			All Personal Care Prods.
	2460400000	x			Automotive Aftermkt Prods.
	2460500000	x			Coatings and Related Prods.
	2460600000	x			Adhesives and Sealants
	2460800000	x			FIFRA Related Products
	2460900000	x			Misc. Prods
	2465000000			x	Comercial & Consumer Products
	2465900001				x

2. Future Year Inventory Document Changes

- a. All chapters related to base and future year inventories in the SIP document are being revised.