Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the WASHINGTON DC-MD-VA MAINTENANCE AREA

Prepared by:

Metropolitan Washington Council of Governments

for the

District of Columbia Department of Health
Maryland Department of the Environment
and the
Virginia Department of Environmental Quality

on behalf of the
Metropolitan Washington Air Quality Committee

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1.0 Executive Summary

The federal Clean Air Act, 42 *U.S.C.* §7401 *et seq*. as amended by the Clean Air Act Amendments of 1990 (CAAA), requires all areas of the nation to attain and maintain compliance with the federal ambient air quality standards, including the 8-hour carbon monoxide standard.

The Metropolitan Washington DC-MD-VA region attained the federal carbon monoxide standard in the 1990s and, in accordance with CAAA Section 175A(a), submitted a CO maintenance plan covering the period 1996-2007. EPA approved this maintenance plan effective March 16, 1996. In accordance with Section 175A(b), the region is required to submit a second maintenance plan within eight years of its redesignation as an attainment area. This revised maintenance plan must provide for maintenance of the carbon monoxide standard for 20 years after attainment. This maintenance plan is submitted in fulfillment of the Section 175A(b) requirement, and provides for attainment of the CO standard in the Washington DC-MD-VA attainment area through March 16, 2016.

This maintenance plan demonstrates that the Washington DC-MD-VA nonattainment area is in continued attainment with the 8-hour carbon monoxide standard. Monitoring data for the area show that CO levels have not violated the NAAQS since 1988. Since 1989, the region's design value has consistently decreased. At 4.5 ppm, it is currently well below the standard of 9 ppm. Reductions in CO emissions are permanent and enforceable. As required by EPA, this maintenance plan uses MOBILE6, instead of the previously used MOBILE5a, to calculate the mobile emissions inventory. The relative rate of reduction analysis shows that mobile emission reductions under MOBILE6 are significantly greater than under MOBILE5a. Emissions projections to the year 2016 are consistent with ambient CO levels below the NAAQS.

2.0 Introduction and Overview

The Metropolitan Washington DC-MD-VA region attained the federal carbon monoxide standard in the 1990s and, in accordance with CAAA Section 175A(a), submitted a CO maintenance plan covering the period 1996-2007. EPA approved this maintenance plan effective March 16, 1996. In accordance with Section 175A(b), the region is required to submit a second maintenance plan within eight years of its redesignation as an attainment area. This revised maintenance plan must provide for maintenance of the carbon monoxide standard for 20 years after attainment. This maintenance plan is submitted in fulfillment of the Section 175A(b) requirement, and provides for maintenance of the CO standard throughout the Washington DC-MD-VA attainment area through March 16, 2016.

2.1 Background

The federal Clean Air Act, 42 U.S.C. § 7401 et seq. as amended by the Clean Air Act Amendments of 1990 (CAAA) requires all areas of the nation to attain and maintain compliance with the federal ambient air quality standards. These federal standards are designed to protect the public health and welfare from specific pollutants and are referred to as the National Ambient Air Quality Standards (NAAQS).

Federal standards exist for six criteria pollutants, including carbon monoxide (CO). Carbon monoxide is a colorless, odorless gas that most often results from incomplete combustion of a fossil fuel. Exposure to unhealthy levels of carbon monoxide reduces oxygen delivery to the body's organs and tissues. The health threat created by CO is greatest for those who suffer from cardiovascular disease. Exposure to elevated CO levels can result in poor vision, coordination and learning ability. It also inhibits the ability to perform complex tasks. EPA's health-based national air quality standard for CO is 9 parts per million (ppm) measured as an annual second-maximum 8-hour average concentration.

In the Washington DC-MD-VA Metropolitan Statistical Area (MSA), the District of Columbia and portions of Maryland and Virginia were formerly designated in nonattainment of the CO standard. Figure 1 shows these areas. The portion of Maryland formerly designated nonattainment included portions of Montgomery and Prince George’s Counties, specifically Election Districts 4, 7, 10 and 13 in Montgomery County and Election Districts 2, 6, 12, 16, 17 and 18 within Prince George’s County. These areas are marked in Figure 2. Virginia’s portion of the CO nonattainment area contained the City of Alexandria and Arlington County.

The Metropolitan Washington area was a pre-1990 carbon monoxide nonattainment area. When the Clean Air Act Amendments were passed in 1990, the region was classified as a moderate nonattainment area with an attainment date of December 31, 1995. Subsequent to the nonattainment designation, the District of Columbia, State of Maryland and the Commonwealth of Virginia submitted attainment SIPs that were fully approved by EPA

in October, September and January of 1994, respectively. These plans met all the requirements of Section 110(a)(2)(I) of the Clean Air Act.

Figure 1: Map of Washington DC-MD-VA Carbon Monoxide Nonattainment Area

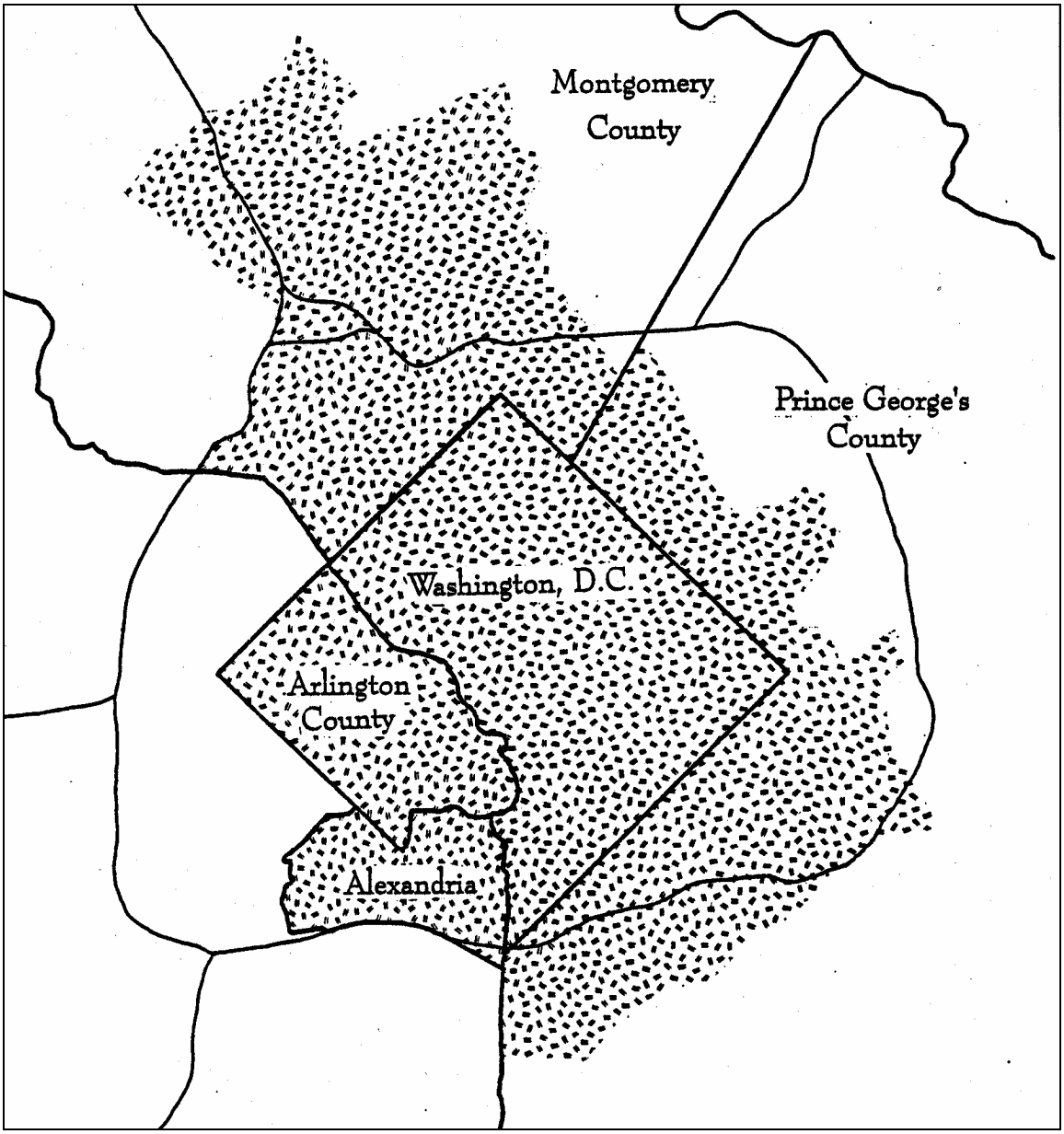
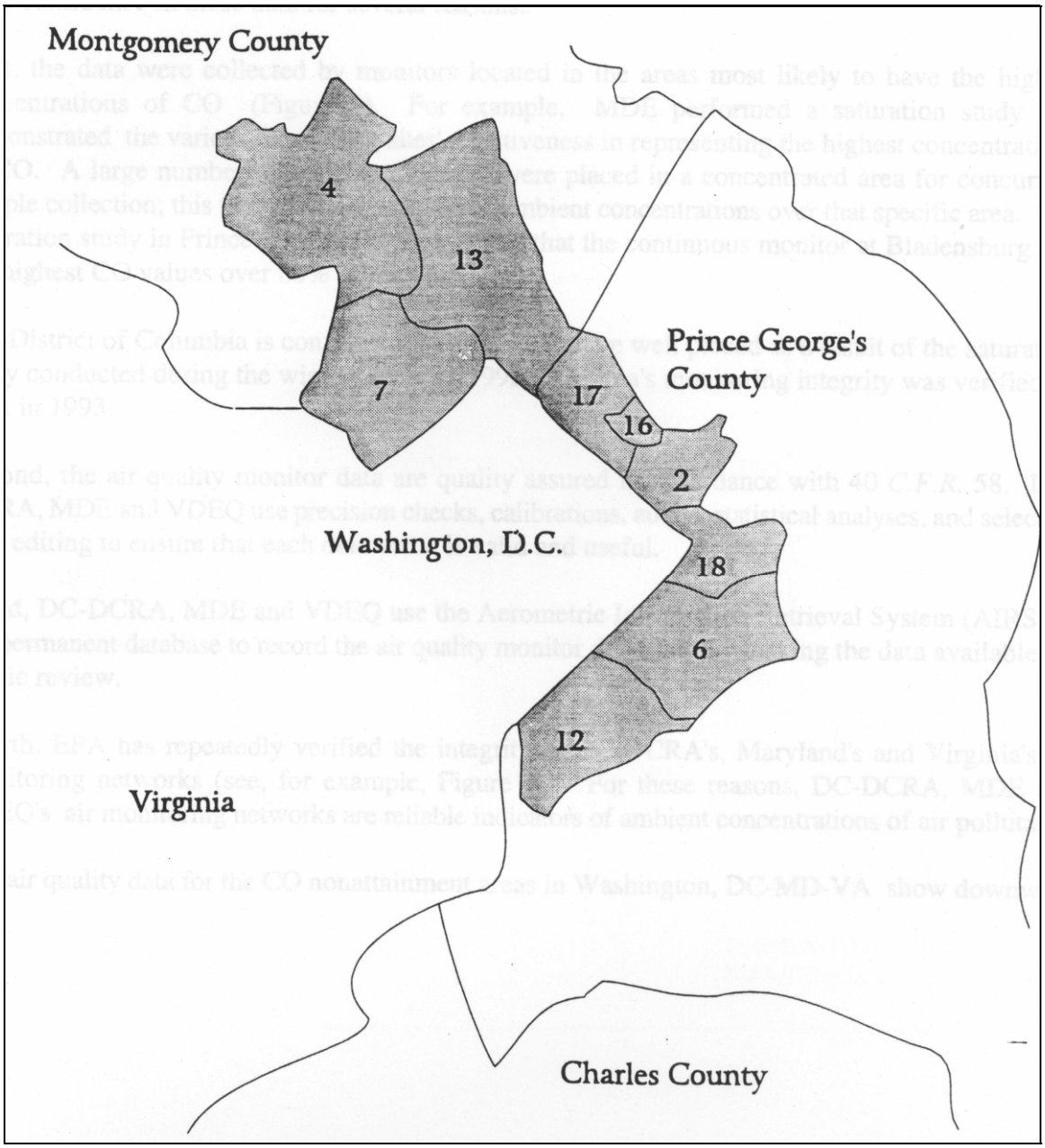


Figure 2: Carbon Monoxide Nonattainment Areas
in Montgomery County and Prince George's County, Maryland



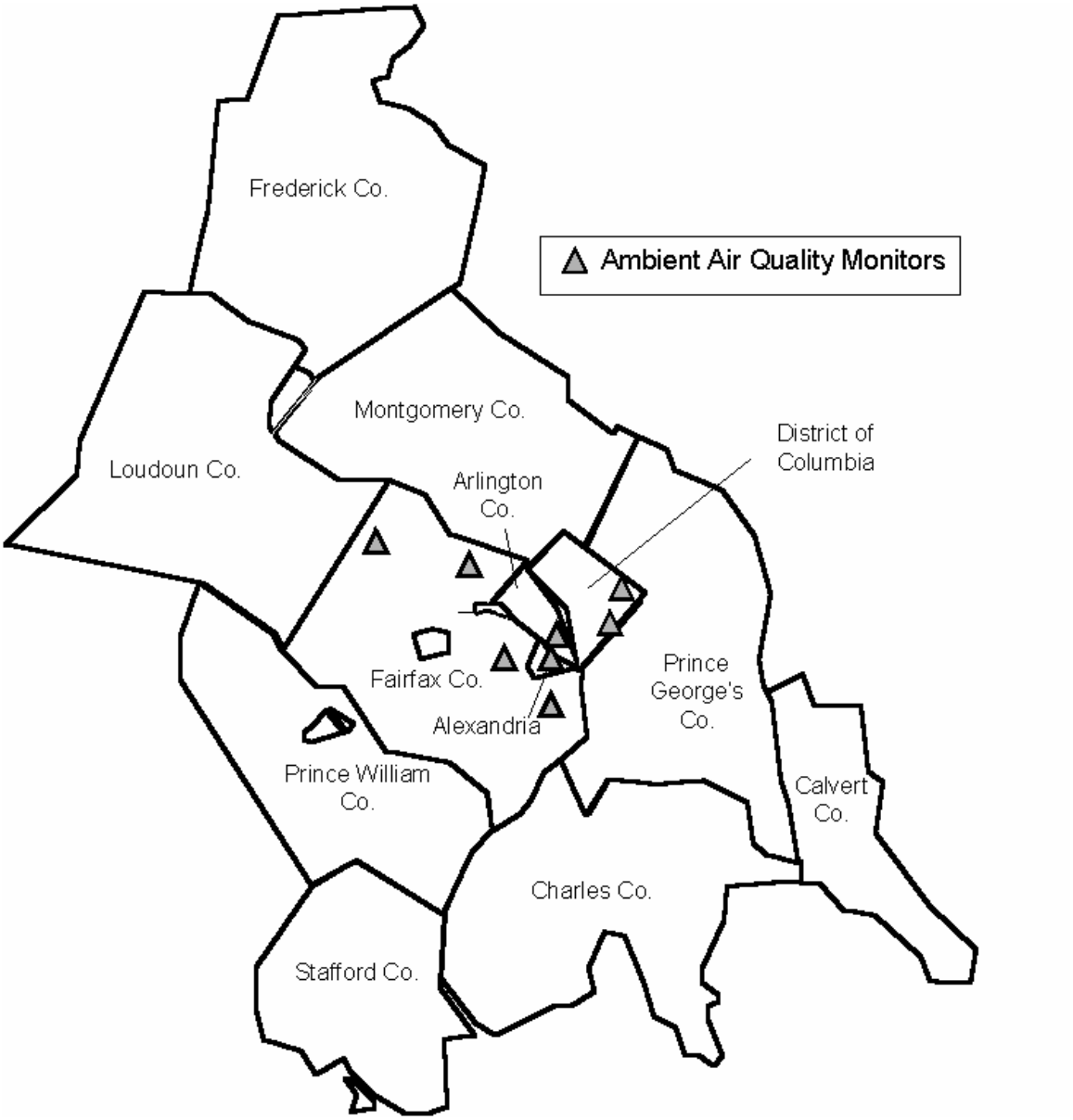
2.2 Attainment Redesignation and Maintenance Plan

In October 1995, the District of Columbia, Maryland and Virginia submitted formal revisions to their State Implementation Plans. These revision included requests that the Metropolitan Washington region be redesignated as an attainment area for the CO standard. In accordance with CAAA Section 175A(a), the SIPs also contained a maintenance plan providing for continued attainment of the CO standard for 10 years after redesignation. In On January 30, 1996, EPA redesignated the Washington DC-MD-VA region as an attainment area effective March 15, 1996. In this action EPA also approved the region's maintenance plan.

2.3 Continued Monitoring

The Metropolitan Washington region currently has air quality monitors sampling carbon monoxide levels at eight locations across the region. These monitors are located in regions likely to have the highest concentrations of CO. Figure 3 shows the location of these monitors. Monitored data are quality assured using precision checks, calibrations, audits statistical analyses and selective data editing to ensure that readings are valid and useful.

Figure 3: Washington Region Carbon Monoxide Monitor Locations



3.0 Revisions to the 1990 Base Year Attainment Inventory

The full original 1990 Base-Year Carbon Monoxide Inventory was submitted to EPA for approval by the District of Columbia, the State of Maryland and the Commonwealth of Virginia on March 21, 1994, January 13, 1994 and April 3, 1995, respectively. These inventories, which were subsequently approved by EPA in its redesignation notice, were used as the basis for the calculations in the region's first maintenance plan.

The emissions inventory covers the carbon monoxide emissions of the Washington DC-MD-VA nonattainment area on a typical winter season weekday. The inventory includes emissions from the District of Columbia, Arlington County and the City of Alexandria in Virginia, and Montgomery and Prince George's counties in Maryland. For convenience, the entire emissions of Montgomery and Prince George's counties are included in the inventory despite the fact that only a portion of those counties was originally designated nonattainment.

In 2002 and early 2003, the Metropolitan Washington Air Quality Committee (MWAQC) made changes to the method for calculating emissions from mobile sources. This change, described in succeeding sections, resulted in revisions to the 1990 base year inventory. The revised 1990 base-year inventory is presented in Table 3-1.

3.1 Revision to Mobile Source Inventory

As per EPA requirement, the mobile emissions inventory has been recalculated using MOBILE6, EPA's newest approved mobile emissions model.

Emissions from mobile sources were derived from the use of the National Capital Region Transportation Planning Board (TPB) travel demand forecasting procedure, which simulates vehicle travel across the region's transportation system. Travel was simulated on all highways in the region, including both volume and speed of travel for each hour of the day. An EPA emissions model, MOBILE6, was used to determine the emissions characteristics of the vehicle fleet in place in the year 1990. Input for this emissions model includes locally specific information such as age distribution of registered vehicles, evaporation characteristics of motor fuel, and temperature data. The general equation for the estimation of mobile sources is:

(Travel Component) x (Emission Factor) = Emissions

Emissions accounted for in the mobile source inventory include:

- Origin: Emissions include "cold start" and "hot start" emissions occurring during the first few minutes of vehicle operation.
- Running: Emissions occurring on local streets and on the region's network of arterial streets, freeways and non-ramp freeways.
- Running Loss: Emissions due to the heating of fuel and fuel lines.
- Crankcase: Emissions due to blow-by.

- Destination: Evaporative or "hot soak" emissions occurring at the conclusion of a vehicle trip after the engine is turned off.
- Diurnal: Evaporative emissions occurring when the vehicle is at rest due to temperature fluctuations.
- Resting Loss: Emissions due to the permeation of fuel through hoses and fittings.
- Auto Access: Emissions attributable to auto trips to Metrorail stations or to park-and-ride lots.
- Bus: Bus emissions, i.e., Metrobus, Ride-on, etc.

In 2002 and early 2003, MWAQC and TPB undertook a series of improvements and refinements to the methodology used to calculate mobile emissions in the Washington metropolitan area. These improvements included:

- Using the MOBILE6 model to estimate emissions factors;
- Updating the mobile emissions model inputs to reflect the inspection and maintenance (I/M) programs described in the most recent submissions to EPA by Maryland, Virginia and the District of Columbia, to recognize changes in vehicle type and age reflected in the 2002 registration data, and to account for the Heavy-Duty Diesel Vehicle and National Low Emission Vehicle (NLEV) programs;

Updating the Travel Demand Model (currently Version 2.1) to reflect changes in regional travel patterns and driving habits documented through household surveys, traffic data and transit ridership information

To ensure that the mobile emissions in the 1990 baseline are comparable to the 2007 and 2016 mobile emissions used in measuring rate of progress and attainment, MWAQC calculated the 2007 and 2016 mobile emissions using the new model. A full description of the methodology for recalculating the 1990 mobile emissions inventory is included in Appendix B.

3.2 Correction to Area Source Inventory

The base year inventory for the District of Columbia appearing in the previously approved maintenance plan totaled 18.08 tpd. This inventory included an addition error of 2.19 tpd resulting from double counting of emissions due to consumption of natural gas and liquefied petroleum gas. The correct base year area source inventory for the District of Columbia is 15.90 tpd. A detailed inventory is included in Appendix C.

3.3 Revision to Stationary Source Inventory

The stationary source base year inventories for the Virginia and Maryland portions of the nonattainment area have been revised to correct unidentified errors in the previous inventory.

3.4 Addition of Non-road Inventory

The base year inventory approved in January 1996 did not contain an inventory for non-road sources. This plan revises the base year inventory to include emissions from non-road equipment. Emissions from this category were based on a 1991 EPA contractor's report titled, "Non-Road Engine and Vehicle Emission Inventories for CO and Ozone Nonattainment Boundaries, Washington, D.C. MSA". Non-road emissions are shown in Table 1. A detailed inventory is included in Appendix D.

To construct the EPA non-road inventory, several factors were estimated: (1) equipment populations in the nonattainment area; (2) annual hours of use for each type of equipment, adjusted for geographic region and for the season of interest for each pollutant studied; (3) average rated horsepower for each type of equipment; (4) typical load factor for each type of equipment; and (5) an emission factor for each of the 79 categories of equipment.

In developing emissions inventories for non-road engines and vehicles EPA used the following formula:

M = N x HRS x HP x LF x EF, where

M = mass of emissions of pollutant during inventory period
N = source population
HRS = annual hours of use
HP = average rated horsepower
LF = typical load factor
EF(i) = average emissions of pollutant per unit of use (e.g., emission factor grams per horsepower-hour)

The product of the annual hours of use, the average rated horsepower, and the load factor is referred to as the per-source usage rate. The product of the equipment population and the per-source usage rate is referred to as the activity level, and is estimated in units of horsepower-hours. By multiplying the seasonally adjusted activity levels by the appropriate emission factor, emission estimates for an ozone season day were developed for each category of non-road equipment and vehicles in the EPA-prepared inventories.

The EPA estimates as provided in the report did not accurately reflect the 1990 summer Reid Vapor Pressure (RVP) of 8.3 psi nor the proper activity split between the weekend and weekday use of recreational boating and lawn and garden equipment. The EPA document reported that a 10.5 psi RVP was used in their analysis. The EPA estimates for the region were adjusted for the RVP and activity split by the Maryland Department of the Environment.

The Metropolitan Washington Council of Governements' Department of Environmental Programs (COG/DEP) improved the methodology for calculating the nonroad inventory during the process of developing the 1999 Periodic Emissions Inventory (PEI). As

written in the documentation for the 1999 PEI (1999 Periodic Emissions Inventory of Ozone Precursors Emissions for the Washington, DC-MD-VA Ozone Nonattainment Area, dated November 12, 2001), EPA's NONROAD Model was used to generate ratios of emissions from commercial and residential non-road equipment categories. Those ratios were applied to the original 1991 EPA report of non-road emissions for the Washington region.

For this purpose, NONROAD model runs were made for the metropolitan Washington region for weekday and weekend day. The ozone season day weighted ratios of the commercial and residential components for gasoline lawn and garden equipment category (2-stroke and 4-stroke) were estimated from the modeled emissions. These percent distributions were applied to the combined category for developing the emissions for the covered lawn and garden gasoline equipment categories. The resulting non-road inventory is the same as that reported in the 1990 Baseline Inventory report, but the level of detail is much greater, which allows for more accurate projections of future year inventories before and after emission controls are applied.

3.5 Revised Base Year Inventory

The revised 1990 base-year inventory is presented in Table 1. This inventory incorporates the changes discussed in Sections 3.1 through 3.4.

Table 1: Base Year Wintertime CO Emissions Inventory for the Washington DC-MD-VA Nonattainment Area

	District of Columbia	Maryland	Virginia	Total
Mobile	539.1	1724.8	325.5	2589.5
Area	15.9	71.4	9.9	97.1
Stationary	3.3	6.2	0.9	10.4
Non-Road	16.3	60.9	16.8	94.0
Total	**574.7**	**1863.2**	**353.0**	**2791.0**

4.0 Projection Year Inventory

The 2007 and 2016 projected uncontrolled inventories are derived by applying the appropriate growth factors to the 1990 Base-Year Emissions Inventory. EPA guidance describes four typical indicators of growth. In order of priority, these are product output, value added, earnings, and employment. Surrogate indicators of activity, for example population growth, are also acceptable methods.

Round 6.3 Cooperative Forecasting results (population, household and employment projections), which are prepared and officially adopted by the Metropolitan Washington Council of Governments (COG), were used to project emissions from area and nonroad sources. The Economic Growth Analysis System (EGAS) model was used by all three jurisdictions to project growth in point source emissions. Projections for onroad were developed using MOBILE6 and the Version 2.1 Travel Demand Model developed by the National Capital Region Transportation Planning Board (TPB).

4.1 Growth Projection Methodology

The growth in point source emissions is projected using EGAS version 3.0. Point source emissions for 1990 are provided from the state data sources and the model is run with the following options selected: projections are run by Source Classification Code; the Bureau of Labor Statistics national economic forecast; and the baseline regional economic forecast. Because an outdated version of EGAS was used to obtain the 2007 projections used in the 1995 maintenance plan, 2007 projections have been updated using EGAS 3.0. Point source emission projection using EGAS are contained in Appendix E.

Base-year area and nonroad source emissions for 1990 were calculated using 1990 population, household, and employment data. Thus, growth factors for the periods of 1990 to 2007 and 1990 to 2016 were derived by dividing Round 6.3 population, household, and employment forecasts for the analysis year by actual 1990 population, household, and employment values for the region. The 2007 and 2016 emissions for area and non-road sources are calculated by multiplying the 1990 base-year area and non-road emissions by the above growth factors for the appropriate year for each jurisdiction. Each area and non-road source category was matched to an appropriate growth surrogate based on the activity used to generate the base-year emission estimates. Area and non-road projection inventories are contained in Appendices C-D. The growth factors used for the 2007 and 2016 projection years are included in Appendix C. The growth factors were applied to emissions categories by specific jurisdictions.

4.2 Emission Control Measures

The District of Columbia, Maryland and Virginia must show that the reduced levels of ambient carbon monoxide are due to permanent and enforceable measures. Decreased CO levels are not a result of favorable meteorology in the nonattainment area. CO violations usually accompany distinct wintertime weather regimes:

- South to southwesterly winds at speeds generally less than 10 knots; in some cases, winds are calm.
- Temperatures tend to be abnormally high during CO episodes, with southwest winds bringing warm, moist air from the Gulf of Mexico into the region.
- Skies tend to be overcast, with persistent fog and light drizzle.

This weather regime is not uncommon in the Washington nonattainment area, and it consistently accompanied CO episodes prior to 1989. Because of the implementation of various CO controls, however, this weather pattern no longer causes CO violations.

Motors vehicles remain the dominant source of CO emissions in the Metropolitan Washington nonattainment area. Accordingly, most of the area's permanent and enforceable CO emission reductions are due to motor vehicle controls. Controls reducing CO emissions in the Washington region include:

- Enhanced Vehicle Emissions Inspection and Maintenance
- Reformulated Gasoline (On-Road)
- Federal Tailpipe Standards and Regulations (including on-road and off-road sources and small engines)

In addition, stationary source emissions have been reduced as a result of improved combustion efficiency. CO is a product of incomplete combustion, and as stationary sources have improved the effectiveness of their operating controls, combustion efficiency has improved and CO emissions have decreased. Add-on CO controls are not required for stationary sources in the region, but because CO is a criteria pollutant, emissions from new stationary sources are subject to BACT.

4.3 Controlled Inventory

The projection of 2007 and 2016 controlled emissions is simply the 2007 or 2016 uncontrolled emissions minus the emission reductions achieved from the control measures detailed above. The controlled 2007 and 2016 inventories are presented in Tables 2 and 3, respectively.

Table 2: 2007 Wintertime CO Emissions Inventory for the Washington DC-MD-VA Nonattainment Area

	District of Columbia	Maryland	Virginia	Total
Mobile	171.4	697.1	121.1	989.5
Area	16.8	85.5	11.9	114.1
Stationary	2.9	6.6	0.9	10.3
Non-Road	13.7	64.7	17.1	95.6
Total	**204.7**	**853.8**	**151.0**	**1209.5**

Table 3: 2016 Wintertime CO Emissions Inventory for the Washington DC-MD-VA Nonattainment Area

	District of Columbia	Maryland	Virginia	Total
Mobile	131.5	545.8	96.9	774.2
Area	18.5	92.4	13.3	124.2
Stationary	2.7	6.4	0.7	9.8
Non-Road	13.3	65.9	14.4	93.6
Total	**166.0**	**710.5**	**125.3**	**1001.8**

5.0 Continued Maintenance of Federal Health Standard

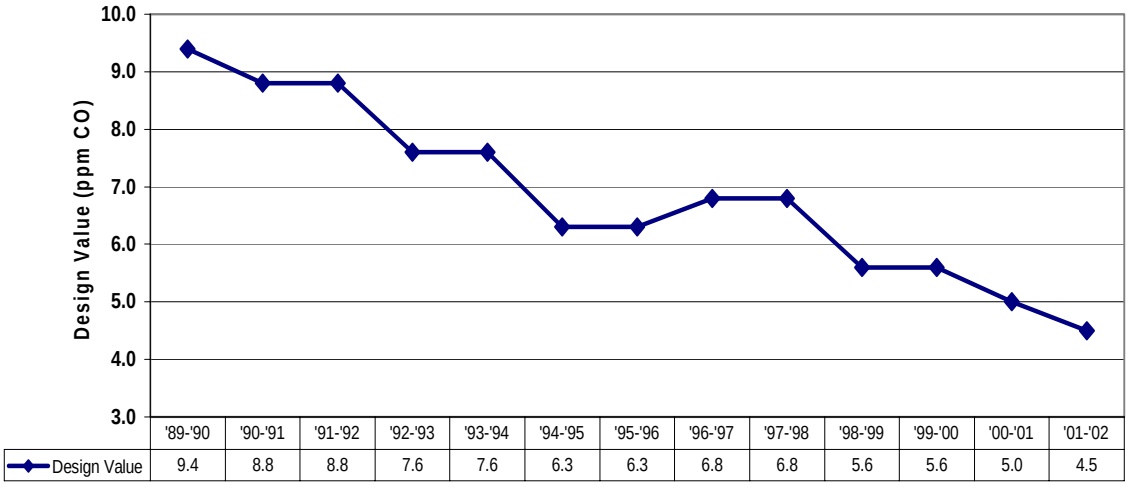
The Metropolitan Washington region has remained in attainment for the federal 8-hour standard for carbon monoxide since its re-designation in 1996. Monitor data for the nonattainment area continue to show downward trends in the ambient levels of CO. Current and projected inventories also remain below the attainment inventory.

5.1 Monitoring Data

The air quality monitoring data for the Metropolitan Washington region have shown downward trends in ambient levels of CO since the Clean Air Act Amendments were passed in 1990. Attainment of the 8-hour CO standard is determined by calculating a region's design value. A CO design value is calculated by comparing the second-highest non-overlapping 8-hour readings at a given monitor for each of two years. The higher of those two readings becomes the monitor's design value. The regional design value is the highest design value among the region's monitors. If the regional design value is lower than the standard, then the area is in attainment.

Air quality monitoring data indicate that there has not been a violation of the carbon monoxide NAAQS in the Washington DC-MD-VA nonattainment area since 1988. The 2001-2002 8-hour average design value for the region was 4.5 ppm, well below the 9 ppm standard for attainment. Figure 4 shows the region's 8-hour design values for the period 1989-2002. More detailed monitoring data is included in Appendix F.

Figure 4: Historical CO Design Values for the Metropolitan Washington Nonattainment Area (in Parts Per Million)



	'89-'90	'90-'91	'91-'92	'92-'93	'93-'94	'94-'95	'95-'96	'96-'97	'97-'98	'98-'99	'99-'00	'00-'01	'01-'02
Design Value	9.4	8.8	8.8	7.6	7.6	6.3	6.3	6.8	6.8	5.6	5.6	5.0	4.5

5.2 Comparison to Attainment Year Inventory

In a February 2003 "Clarification of Policy Guidance for MOBILE6 SIPs in Mid-Course Review Areas", EPA delineated the proper approach for demonstrating that SIPs or maintenance plans revised with MOBILE6 inventories continue to demonstrate attainment. The guidance outlines a Relative Rate of Reduction (RRR) test that should be used to demonstrate if a plan still shows attainment. The RRR test consists of two sub-tests:

- Compare rates of reduction of MOBILE6 and MOBILE5a-based mobile emissions. If the MOBILE6 RRR is greater than the MOBILE5a RRR, then the plan continues to show attainment.
- Compare rates of reduction of total emissions (including MOBILE6 and MOBILE5a based mobile emissions) in the existing plan and in the new plan revision. If the RRR of total emissions in the new plan revision is greater than the corresponding RRR of total emissions in the existing plan, then the plan continues to show attainment.

Figure 5 compares the rate of reduction in mobile emissions using MOBILE5a to the rate of reduction using MOBILE6. The 61.8% rate of reduction using MOBILE6 is greater than the 42.5% rate of reduction using MOBILE5a.

Figure 5: Relative Rates of Reduction in Mobile Source Emissions Using MOBILE5a and MOBILE6

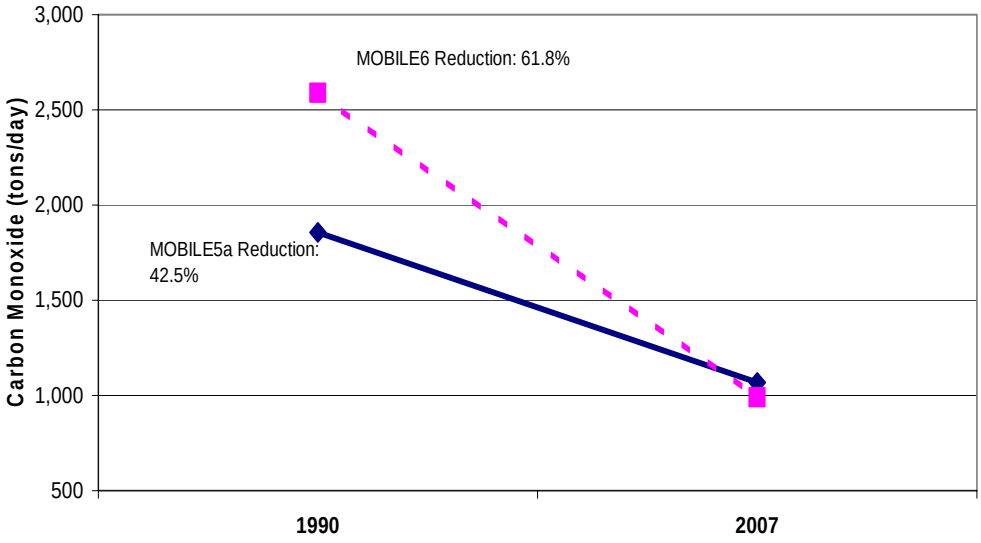
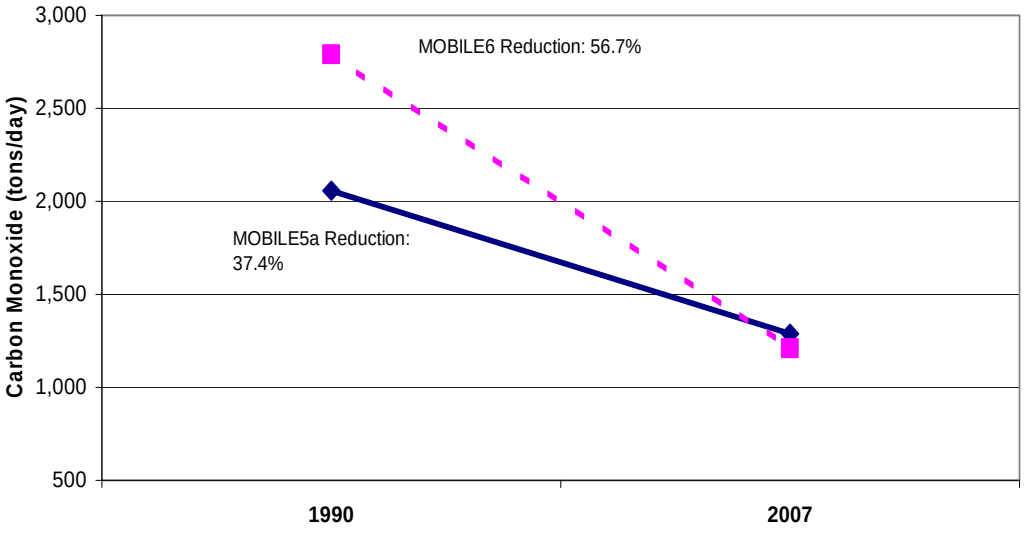


Figure 6 compares the rates of reduction of total emissions from all four sectors, mobile, area, stationary and non-road, using MOBILE5a and MOBILE6. The 56.7% rate of reduction using MOBILE6 is greater than the 37.4% rate of reduction using MOBILE5a.

Figure 6: Relative Rates of Reduction in Total Emissions Using MOBILE5a and MOBILE6



Because the relative rates of reduction in both the mobile and total inventories using MOBILE6 are greater than the relative rates of reduction using MOBILE5a, the maintenance plan for the Washington region continues to demonstrate attainment.

6.0 Mobile Emissions Budget

In order to balance growing metropolitan regions and expanding transportation systems with improving air quality, EPA established regulations ensuring that enhancements to existing transportation networks will not impair progress towards air quality goals. Under the Clean Air Act Conformity Regulations, transportation modifications in an ozone or carbon monoxide nonattainment area must not impair progress made in air quality improvements. These regulations, published in EPA's Transportation Conformity rule on November 24, 1993 in the Federal Register and amended in a final rule signed on July 31, 1997, require that transportation modifications "conform" with air quality planning goals established in air quality SIP documents.

To be found in "conformity" with air quality plans, the VOC, NOx and carbon monoxide emissions generated by mobile sources when a transportation plan is implemented must meet certain emission tests:

- When a mobile source emissions budget SIP has been submitted and found adequate, mobile source emissions must not exceed the mobile emissions budget established in the SIP;
- In areas without a mobile source emissions budget, mobile source emissions must be less than mobile source emissions in 1990 and projected emissions with the improvements included in the transportation plan (action scenario) must be less than projected emissions without the improvements (base scenario).

6.1 The Washington Area Conformity Process

Mobile source emissions in the Constrained Long Range Plan (CLRP) and five-year Transportation Improvement Plan (TIP) cannot exceed the mobile emissions budget. The transportation plans are required to conform to the mobile budget established in the SIP for the short-term TIP years, as well as for the forecast period of the long-range plan, which must be at least twenty years.

In the metropolitan Washington area, modifications to the existing transportation network are advanced by the Transportation Planning Board (TPB), state, regional and local transportation agencies through a TIP. A TIP is updated annually for the metropolitan Washington area and includes transportation modifications and improvements on a six-year program cycle. Pursuant to the conformity regulations, the TIP and long-range transportation plan must contain an analysis of the motor vehicle emissions estimates for the region resulting from the transportation improvements. These analyses must show that the transportation improvements in the TIP and the plan do not result in a deterioration of air quality goals established in the SIP.

6.2 Budget Level for On-Road Mobile Source Emissions

As part of the development of the SIP, MWAQC, in consultation with the TPB, establishes a mobile source emissions budget. This budget is the benchmark used to determine if the region's constrained long range transportation plan (CLRP) and six year transportation improvements program (TIP) conform with the Clean Air Act Amendments of 1990. For pollutants like CO, where the conformity rule applies to areas beyond the former nonattainment area boundaries, the geographic area used in the conformity determination may not coincide with the nonattainment area. For the purposes of determining conformity with the CO SIP, the CO conformity region is the District of Columbia, Montgomery County and Prince George's County in Maryland, and Arlington County and the City of Alexandria in Virginia. Although Montgomery and Prince George's counties are included in their entirety, the actual CO nonattainment areas within these counties were smaller: only 3 out of the 13 election districts in Montgomery County and 6 out of 21 districts in Prince George's County. See Figure 2.

The Washington region's September 1995 maintenance plan contained a mobile budget of 1,671.5 tpd CO. This budget was calculated at 90% of the 1990 attainment year mobile inventory, calculated with MOBILE5a. This provided a 10% cushion to ensure long-term maintenance of the standard. The 2016 mobile emissions inventory reflects the most recent models available, MOBILE6 and the Travel Demand Model Version 2.1, used by COG's Transportation Planning Department, and the most recent data available, namely 2002 vehicle registration data and the Round 6.3 Cooperative Forecasts. Use of MOBILE6 has resulted in a revised estimate of 1990 attainment year mobile emissions. This revised estimate is higher than the estimate included in the attainment year inventory appearing in the September 1995 plan.

Despite the revised inventory, the recommended emissions budget remains the same as in the September 1995 maintenance plan. Table 4 provides details on the region's mobile emissions budget for carbon monoxide.

Table 4: Winter CO Mobile Emissions Budget for the Washington DC-MD-VA Nonattainment Area

District of Columbia	Maryland	Virginia	Regional Total
369.3	1,045.2	257.0	1,671.5

7.0 Contingency Plan

As per Section 211(m)(1) of the Clean Air Act, all regions with a carbon monoxide design value exceeding 9.5 ppm during the period 1988-1989 were required to implement oxygenated fuel programs by November 1, 1992. The Washington nonattainment area had an 8-hour CO design value of 11.4 ppm for 1988-1989. Therefore, in accordance with EPA provisions, Virginia adopted oxygenated fuel regulations in June 1992; Maryland adopted them in October 1992 and the District of Columbia adopted them in April 1993. The oxygenated fuels programs were successfully implemented for the fall and winter seasons from 1992 through 1995.

For every two-year period since 1998-1989, CO design values in the Washington region have been lower than the 9.5 ppm threshold for implementation of the oxygenated fuels program. From Section 211(m)(6) of the Clean Air Act:

> Nothing in this subsection shall be interpreted as requiring an oxygenated gasoline program in an area which is in attainment for carbon monoxide, except that in a carbon monoxide nonattainment area which is redesignated as attainment for carbon monoxide, the requirements of this subsection shall remain in effect to the extent such as program is necessary to maintain such standard thereafter in the area.

The oxygenated fuel program is not necessary to maintain the NAAQS for CO because of the permanent and enforceable CO emissions reductions that have occurred and will continue to occur in mobile sources from measures such as the Federal Motor Vehicle Control Program (FMVCP) and the emissions inspection and maintenance programs, and reductions in stationary sources from implementation of Best Available Control Technology (BACT) and other combustion improvements.

As a result, the District of Columbia, Maryland and Virginia continue to designate the oxygenated fuel program as a contingency measure for the region's maintenance plan. The states propose to re-implement the oxygenated fuels program if a monitor in the network were to detect two exceedances in one calendar year. Implementation of an oxygenated fuels program would increase the percentage oxygenate requirement to 2.7% from the 2.0% currently mandated under the region's reformulated gasoline program.

Appendix A

Membership Rosters

for the
Metropolitan Washington Air Quality Committee (MWAQC)
MWAQC Technical Advisory Committee
and
Air Quality Public Advisory Committee

Metropolitan Washington Air Quality Committee

MEMBERSHIP LIST

Denotes Chair ★
Denotes Vice Chair ★ ★

	Member	Telephone	Fax	Alternate	Telephone	Fax
District of Columbia						
Council	Phil Mendelson ★	(202) 724-8064	(202) 724-8099	-	-	-
Executive	Ted Gordon	(202) 442-8989	(202) 442-4808	James Collier	(202) 535-1656	(202) 535-1362
	Elizabeth Berry	(202) 727-3512		Sharon Anderson	(202) 727- 6265	
Maryland						
Bowie		-	-	-	-	-
Calvert County	Dave Brownlee	(301)535-1600x2338		Howard Chang	(301)870-2520	(301)274-1924
Charles County	Wayne Cooper	(301) 638-0801	(301) 645-0560	Victoria Greenfield	(301) 638-0801	(301)645-0560
College Park	Eric C. Olson	(301) 864-3770	(301) 699-8029	Mark D. Schroder	(301) 264-8667	(301) 699-8029
Frederick County	Jan Gardner	(301) 694-1092 (301) 694-1100 main	(301) 694-1849	Larry Bohn	(301) 631-3179	(301) 631-3180
Gaithersburg	John Schlichting	(202) 729-3835	(202) 929-1010			
Greenbelt	Thomas X. White	(301) 474-8002	(301) 441-8248	-	-	-
Montgomery County (Council)	Nancy Floreen	(240) 777-7906	(240) 777-7989	Keith Levchenko	(240) 777-7944	(240) 777-7888
Montgomery County (Council)	Howard Denis	(240) 777-7966	(240) 777-7989			
Montgomery County (Executive)	Douglas Duncan	(240) 777-2500	(240) 777-7765	James Caldwell	(240) 777-7781	(240) 777-7765
Prince George's Co. (Council)	Thomas E. Dernoga ★★	(301) 952-3887	(301) 952-4801	-	-	-
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Rockville			-		-	-
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Fairfax County	T. Dana Kauffman	(703) 971-6262	(703) 971-3032	Gerald Hyland	(703) 780-7518	(703) 780-1491
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Technical Advisory Committee
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Charles County	Victoria Greenfield	(301) 683-0801	(301) 645-0560	-	-	-
College Park	Ron Monteith	(301) 864-3770	(301) 699-8029	M. Patrick Peck	(301) 864-8664	(301) 699-8029
Frederick City		-	-	-	-	-
Frederick County	Larry Bohn	(301) 631-3179	(301) 631-3180	-	-	-
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Greenbelt	Michael McLaughlin	(301) 474-8000	(301) 441-8248	Carl Hursch	(301) 474-8004	(301) 474-8149
Montgomery County	Mary Richmond	(240) 777-7758	(240) 777-7765	-	-	-
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Prince George's Co.	Hon. Thomas Dernoga*	(301) 952-3887	(301) 952-4801			
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District of Columbia	Don Wambsgans	(202) 535-2255	(202) 535-2881	Stan Tracey, Ram T.	(202) 565-2990	(202) 535-1371
Maryland	George (Tad) Aburn	(410) 631-3242	(410) 631-3202	Diane Franks	(410) 631-3250	(410) 631-3202
Virginia	James Sydnor	(804) 698-4424	(804) 698-4510	Terry Darden	(540) 899-4505	(703) 583-3841
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Virginia DOT	Samuel F. Curling Jr.	(804) 371-6768	(804) 786-7401	Kanti Srikanth	(703) 383-2228	(703) 383-2230
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	MD/Urban -- **VACANT**	
	MD/Rural -- **VACANT**	

Appendix B

MOBILE 6 Inventories and Documentation

MEMORANDUM

November 17, 2003

To: Beth Lowe

From: Mike Clifford

Subject: Mobile source emissions inventories for Wintertime carbon monoxide (CO) maintenance area state implementation plan

Introduction

This memo transmits the final mobile source emissions inventories developed for the Wintertime CO maintenance area state implementation plan (SIP) for the Washington region, and documents the technical methods applied in that process. Exhibit 1 contains the emissions estimates by travel component for the 1990, 2007 and 2016 analysis years required for the maintenance planning effort. Exhibit 2 contains the aggregate emissions data summarized by state.

Primary components include network and off-network analyses. The fundamental emissions calculation in each category represents emissions as the product of a travel element and an emissions rate associated with that travel. For example, VMT (in miles per day) multiplied by a CO emissions rate (in grams per mile) yields emissions (in grams, which is aggregated and converted to tons, per day). Each of the travel categories is described below.

Much of the developmental work on this project (use of Mobile6 and associated emissions post-processor) was performed as part of the region's 'severe area ozone SIP' (Reference 1). Work to prepare these inventories was performed in conjunction with the air quality conformity assessment of the 2003 CLRP and FY2004-09 TIP (Reference 2); the detailed documentation (e.g., project inputs, land activity) associated with that effort serves to document these results as well.

Network Components

Travel Demand

The travel demand forecasting component for this work was based upon the execution of the COG/TPB's Version 2.1 travel forecasting process, see COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release C, User's Guide, December, 2002 (Reference 3) for 2007 and 2016; see Reference 1 for base year 1990 travel demands. Inputs to the process include Round 6.3 Cooperative Forecast land activity assumptions and the regional long range plan (2003 CLRP) currently being advanced for adoption by the TPB.

Emissions Factors

The emissions factors for this work were developed by E. H. Pechan and Associates (Pechan), and COG/DEP staff using EPA's Mobile6 emissions factor model (User's Guide to Mobile6.0, EPA, January, 2002). Following the development of inputs to the model under the guidance of the joint TPB / MWAQC Mobile6 Task Force in CY2002, and documentation of the inputs and methods by Pechan staff in two technical memos, appropriate emissions factors for key years were developed. The first memo ("1990 and 2005 Mobile6 Input Documentation", January 27, 2003) is contained in the severe area SIP; the second memo ("2005 Mobile6 Input Documentation for Winter Season") is attached.

Mobile Source Emissions

The calculation of mobile emissions occurs through application of the COG/TPB emissions post-processor (Reference 2, Appendix E - memo dated March 19, 2003, updated 5/14/03, entitled "Description of the Version 2.1/TP+/MOBILE6 Emissions Post–Processor"). This series of programs applies the travel and emissions factors to develop emissions for each of the start, running and soak portions of the trip cycle. This work was performed for each of the required analysis years; the results are documented in Exhibits 1 and 2.

Off-Network Components

These separate calculations of emissions represent additional mobile source emissions which are computed offline, via spreadsheet methods. Separate emissions estimates were prepared for the following categories: local roads, school and transit buses, and auto access. Appendices F - I in Reference 2 are technical memos documenting these separate analyses.

cc: Ron Kirby, Joan Rohlfs, Eulalie Lucas, Daivamani Sivasailam

Following:

Exhibits 1 - 2

Attachment: M. Mullen and A. Codd (Pechan) memo on Mobile6 Input Documentation for Winter Season, 3/5/3

List of References

1. Plan To Improve Air Quality In The Washington, DC-MD-VA Region, MWCOG, August 13, 2003.

2. Air Quality Conformity Determination Of The 2003 CLRP And The FY2004-2009 TIP For The Washington Metropolitan Region, COG/TPB, November 13, 2003

3. COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release C, User's Guide, COG/TPB, December, 2002.

Exhibit 1

Winter CO

Summary Table Maintenance Area
Mobile Emissions Inventories

	1990	2007	2016
I Network			
Start	1051.8	415.2	340.5
Running	1403.8	523.1	391.0
II Off-Network			
Local Roads	97.9	32.0	27.6
School Buses	1.2	0.6	0.2
Transit Buses	3.5	1.4	0.5
Auto Access	31.3	17.3	14.4
Total	2589.5	989.5	774.2

Exhibit 2
Summary Table
WINTER CO Mobile Emissions Inventories for Maintenance SIP
(Tons / Day)

Jurisdiction			
	1990	2007	2016
District of Columbia	539.1	171.4	131.5
Maryland	1724.8	697.1	545.8
Virginia	325.5	121.1	96.9
Total	2589.5	989.5	774.2

Memorandum

Date: March 5, 2003

To: Michael Clifford, COG/TPB
Joan Rohlfs, COG/DEP

From: Maureen Mullen, Angelica Codd, E.H. Pechan & Associates, Inc.

Subject: 2005 MOBILE6 Input Documentation for Winter Season

cc: MOBILE6 Task Force Members

The purpose of this memorandum is to document the MOBILE6 inputs used for 2005 CO winter season analysis that are different from the 2005 ozone season analysis. All input parameters that are not discussed in this memo are identical to those provided in the E.H. Pechan & Associates Memorandum dated January 27, 2003, entitled "1990 and 2005 MOBILE6 Input Documentation.

MOBILE6 Input Parameters

Table 1 summarizes the scenario commands and inputs that vary by season. The evaluation month, RVP, VMT mix fractions, and minimum and maximum temperatures differ by season. A July 1 (7) evaluation month is used in the ozone season analysis while the Jan 1 (1) evaluation month is used during winter season analysis. Although the registration distribution inputs supplied in the winter and ozone season runs are the same, it should be noted that MOBILE6 internally adjusts the registration distributions from a July 1 date to a January 1 date, based on the evaluation month flag. The RVP input used for the ozone season was 7.8 psi while the RVP input was set to 12.9 psi for the winter MOBILE6 runs. The ozone season's minimum and maximum temperatures are reported at 68.5 ^{o}F and 95.0 ^{o}F while the winter season minimum and maximum temperatures are reported at 33.0 ^{o}F and 53.0 ^{o}F. The VMT mix fractions are discussed below.

VMT Mix Fractions

Due to the internal MOBILE6 adjustment of the registration distributions between the ozone season and winter season evaluation months, the VMT mix fractions needed to be recalculated for the 2005 winter CO season since the methodology used to calculate the VMT mix can vary with the registration distributions. The VMT mix fractions by vehicle type for each jurisdiction in the 2005 winter CO season were based on an estimate of the overall non-bus HDV VMT fraction as output from COG's travel demand model combined with county-specific registration distributions and diesel sales fractions and MOBILE6 default data on the VMT mix by vehicle type within the heavy and light-duty vehicle categories. Like the ozone season analysis, the 2005 winter HDVs (excluding buses) account for 8.05 percent of the network VMT, 1.75 percent of local road VMT, and 0 percent of the auto access to transit VMT. The VMT mixes by vehicle type were then recalculated for each jurisdiction using the winter season inputs, but the same methodology as documented for the 2005 ozone season. Tables 2, 3, and 4 show the resulting VMT mix fractions for 2005 network, local roads, and auto access to transit, respectively.

Table 1
MOBILE6 Scenario Data Inputs

Command	Ozone Season Input	Winter Season Input	Comment
EVALUATION MONTH	7	1	By setting this to 1, MOBILE6 adjusts the registration distributions from a July 1 date to a January 1 date.
MIN/MAX TEMPERATURE	68.5 95.0	33.0 53.0	Temperature range (^{o}F)
FUEL RVP	7.8	12.9	In the ozone season, the RVP value is overwritten by default RFG parameters.
VMT FRACTIONS	varies	varies	See memo text

Table 2
2005 Winter VMT Mix Fractions
For Network Analysis

Vehicle Type	2005 Winter VMT Mix Fractions											
		Maryland Counties					Virginia Counties					
	DC	Calvert	Charles	Frederick	Montgomery	Prince George's	Alexandria	Arlington	Fairfax	Loudoun	Prince William	Stafford
LDV	0.4282	0.4178	0.4198	0.4204	0.4165	0.4216	0.4170	0.4224	0.4193	0.4226	0.4258	0.4324
LDT1	0.0835	0.0857	0.0857	0.0857	0.0863	0.0858	0.0827	0.0822	0.0825	0.0824	0.0820	0.0814
LDT2	0.2779	0.2854	0.2855	0.2854	0.2872	0.2857	0.2753	0.2735	0.2748	0.2742	0.2730	0.2709
LDT3	0.0856	0.0862	0.0847	0.0846	0.0857	0.0832	0.0958	0.0938	0.0947	0.0928	0.0916	0.0890
LDT4	0.0393	0.0397	0.0390	0.0389	0.0394	0.0383	0.0440	0.0431	0.0436	0.0427	0.0421	0.0409
HDV2B	0.0245	0.0253	0.0253	0.0248	0.0246	0.0248	0.0242	0.0243	0.0242	0.0242	0.0243	0.0245
HDV3	0.0024	0.0025	0.0024	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0024
HDV4	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0021	0.0022	0.0021	0.0022	0.0022	0.0022
HDV5	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
HDV6	0.0062	0.0061	0.0061	0.0061	0.0061	0.0061	0.0062	0.0062	0.0062	0.0062	0.0062	0.0062
HDV7	0.0073	0.0072	0.0072	0.0072	0.0073	0.0072	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073
HDV8A	0.0081	0.0078	0.0078	0.0080	0.0080	0.0080	0.0082	0.0081	0.0082	0.0082	0.0081	0.0081
HDV8B	0.0282	0.0278	0.0279	0.0281	0.0282	0.0281	0.0284	0.0283	0.0284	0.0283	0.0283	0.0282
HDBS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDBT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MC	0.0050	0.0047	0.0048	0.0045	0.0044	0.0049	0.0047	0.0045	0.0046	0.0048	0.0050	0.0049

Table 3
2005 Winter VMT Mix Fractions
For Local Analysis

Vehicle Type	2005 Winter VMT Mix Fractions											
		Maryland Counties					Virginia Counties					
	DC	Calvert	Charles	Frederick	Montgomery	Prince George's	Alexandria	Arlington	Fairfax	Loudoun	Prince William	Stafford
LDV	0.4576	0.4464	0.4486	0.4491	0.4450	0.4505	0.4455	0.4514	0.4480	0.4515	0.4550	0.4620
LDT1	0.0892	0.0916	0.0916	0.0916	0.0922	0.0917	0.0884	0.0878	0.0882	0.0880	0.0876	0.0870
LDT2	0.2970	0.3050	0.3050	0.3050	0.3069	0.3053	0.2942	0.2922	0.2936	0.2930	0.2917	0.2895
LDT3	0.0914	0.0921	0.0905	0.0904	0.0916	0.0889	0.1023	0.1002	0.1012	0.0992	0.0979	0.0950
LDT4	0.0420	0.0424	0.0416	0.0416	0.0421	0.0409	0.0471	0.0461	0.0465	0.0457	0.0450	0.0437
HDV2B	0.0053	0.0055	0.0055	0.0054	0.0053	0.0054	0.0052	0.0053	0.0052	0.0053	0.0053	0.0053
HDV3	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
HDV4	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
HDV5	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0003	0.0003	0.0004
HDV6	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
HDV7	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
HDV8A	0.0018	0.0017	0.0017	0.0017	0.0018	0.0017	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018
HDV8B	0.0061	0.0060	0.0060	0.0061	0.0061	0.0061	0.0062	0.0062	0.0062	0.0062	0.0062	0.0061
HDBS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDBT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MC	0.0053	0.0050	0.0052	0.0048	0.0047	0.0052	0.0050	0.0048	0.0050	0.0051	0.0053	0.0053

Table 4
2005 Winter VMT Mix Fractions
For Auto Access to Transit Analysis

Vehicle Type	2005 Winter VMT Mix Fractions											
		Maryland Counties					Virginia Counties					
	DC	Calvert	Charles	Frederick	Montgomery	Prince George's	Alexandria	Arlington	Fairfax	Loudoun	Prince William	Stafford
LDV	0.4657	0.4543	0.4566	0.4571	0.4529	0.4585	0.4535	0.4594	0.4560	0.4596	0.4630	0.4702
LDT1	0.0908	0.0933	0.0933	0.0933	0.0938	0.0934	0.0899	0.0893	0.0898	0.0896	0.0892	0.0885
LDT2	0.3023	0.3104	0.3104	0.3104	0.3124	0.3107	0.2994	0.2974	0.2988	0.2982	0.2970	0.2947
LDT3	0.0930	0.0938	0.0921	0.0920	0.0932	0.0905	0.1042	0.1020	0.1030	0.1010	0.0996	0.0967
LDT4	0.0428	0.0431	0.0424	0.0423	0.0429	0.0416	0.0479	0.0469	0.0474	0.0464	0.0458	0.0445
HDV2B	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV8A	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDV8B	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDBS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HDBT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MC	0.0054	0.0051	0.0052	0.0049	0.0048	0.0053	0.0051	0.0050	0.0050	0.0052	0.0054	0.0054

MOBILE6 Input and Output Files

MOBILE6 input and output files will be submitted electronically. A CD-ROM containing complete copies of these files will be provided upon request.

November 2003

Appendix C

Area Source Inventories and Documentation

1990 Baseline Wintertime CO Area Source Inventory

CO Nonattainment Area Jurisdictional Estimates (tons/day)

Growth Factor	Category	NAA Total	District of Columbia	Arlington County	City of Alexandria	Montgomery County	Prince George's County	MD Total	VA Total
pop	On-Site Incineration	0.561	0.000	0.318	0.207	0.023	0.013	0.036	0.525
na	Open Burning	6.981	0.000	0.000	0.000	4.806	2.175	6.981	0.000
pop	Fuel Oil Consumption	1.625	0.108	0.159	0.103	0.649	0.607	1.256	0.261
pop	Coal Consumption	0.979	0.029	0.127	0.081	0.378	0.364	0.742	0.208
pop	Natural Gas and Liquified Petroleum Gas Consumption	6.578	2.187	0.333	0.208	1.960	1.890	3.850	0.541
hhs	Other Fuels Consumption (Residential Wood)	61.616	11.464	0.503	0.694	22.860	26.095	48.955	1.197
pop	Small Electric Utility Boilers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Slash/Prescribed Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Forest Fires	0.747	0.000	0.000	0.000	0.332	0.415	0.747	0.000
na	Agricultural Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
pop	Structure Fires	7.965	2.035	0.573	0.373	2.539	2.446	4.9841	0.946
na	Orchard Heaters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
emp	Commercial Airports	4.449	0.000	4.449	0.000	0.000	0.000	0.000	4.449
pop	General Aviation Airports	3.008	0.000	1.669	0.000	0.788	0.551	1.339	1.669
na	Military Airports	2.214	0.000	0.012	0.000	0.000	2.202	2.202	0.012
emp	Railroad Locomotives	0.423	0.072	0.041	0.044	0.045	0.221	0.266	0.085
	1990 AREA SOURCE TOTAL	**97.15**	**15.90**	**8.18**	**1.71**	**34.38**	**36.98**	**71.36**	**9.89**

Round 6.3 Growth Rates, 1990-2007

	District of Columbia	Arlington County	City of Alexandria	Montgomery County	Prince George's County
Employment	0.981	1.203	1.188	1.317	1.207
Population	1.013	1.167	1.251	1.249	1.188
Households	1.071	1.177	1.270	1.267	1.203

2007 Wintertime CO Area Source Inventory

CO Nonattainment Area Jurisdictional Estimates (tons/day)

Growth Factor	Category	NAA Total	District of Columbia	Arlington County	City of Alexandria	Montgomery County	Prince George's County	MD Total	VA Total
pop	On-Site Incineration	0.674	0.000	0.371	0.259	0.029	0.015	0.044	0.630
na	Open Burning	6.981	0.000	0.000	0.000	4.806	2.175	6.981	0.000
pop	Fuel Oil Consumption	1.955	0.109	0.185	0.129	0.811	0.721	1.532	0.314
pop	Coal Consumption	1.183	0.029	0.148	0.101	0.472	0.432	0.905	0.249
pop	Natural Gas and Liquified Petroleum Gas Consumption	7.558	2.216	0.389	0.260	2.448	2.245	4.693	0.649
hhs	Other Fuels Consumption (Residential Wood)	74.085	12.273	0.592	0.882	28.955	31.383	60.338	1.473
pop	Small Electric Utility Boilers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Slash/Prescribed Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Forest Fires	0.747	0.000	0.000	0.000	0.332	0.415	0.747	0.000
na	Agricultural Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
pop	Structure Fires	9.273	2.062	0.669	0.466	3.170	2.905	6.076	1.135
na	Orchard Heaters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
emp	Commercial Airports	5.350	0.000	5.350	0.000	0.000	0.000	0.000	5.350
pop	General Aviation Airports	3.586	0.000	1.947	0.000	0.985	0.654	1.639	1.947
na	Military Airports	2.214	0.000	0.012	0.000	0.000	2.202	2.202	0.012
emp	Railroad Locomotives	0.498	0.071	0.049	0.052	0.059	0.267	0.326	0.102
	2007 AREA SOURCE TOTAL	**114.10**	**16.76**	**9.71**	**2.15**	**42.07**	**43.42**	**85.48**	**11.86**

***Note: The Metropolitan Washington region has no controls on wintertime CO from area sources**

Round 6.3 Growth Rates, 1990-2016

	District of Columbia	Arlington County	City of Alexandria	Montgomery County	Prince George's County
Employment	1.061	1.434	1.414	1.468	1.424
Population	1.120	1.238	1.319	1.366	1.258
Households	1.178	1.267	1.351	1.401	1.303

2016 Wintertime CO Area Source Inventory

CO Nonattainment Area Jurisdictional Estimates (tons/day)

Growth Factor	Category	NAA Total	District of Columbia	Arlington County	City of Alexandria	Montgomery County	Prince George's County	MD Total	VA Total
pop	On-Site Incineration	0.715	0.000	0.394	0.273	0.031	0.016	0.048	0.667
na	Open Burning	6.981	0.000	0.000	0.000	4.806	2.175	6.981	0.000
pop	Fuel Oil Consumption	2.103	0.121	0.196	0.136	0.886	0.764	1.650	0.332
pop	Coal Consumption	1.271	0.032	0.157	0.107	0.516	0.458	0.974	0.264
pop	Natural Gas and Liquified Petroleum Gas Consumption	8.190	2.448	0.412	0.274	2.677	2.378	5.054	0.687
hhs	Other Fuels Consumption (Residential Wood)	81.114	13.506	0.637	0.938	32.028	34.005	66.033	1.575
pop	Small Electric Utility Boilers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Slash/Prescribed Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
na	Forest Fires	0.747	0.000	0.000	0.000	0.332	0.415	0.747	0.000
na	Agricultural Burning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
pop	Structure Fires	10.024	2.279	0.710	0.492	3.467	3.077	6.543	1.202
na	Orchard Heaters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
emp	Commercial Airports	6.381	0.000	6.381	0.000	0.000	0.000	0.000	6.381
pop	General Aviation Airports	3.836	0.000	2.067	0.000	1.077	0.693	1.769	2.067
na	Military Airports	2.214	0.000	0.012	0.000	0.000	2.202	2.202	0.012
emp	Railroad Locomotives	0.578	0.076	0.059	0.062	0.066	0.315	0.381	0.121
	2017 AREA SOURCE TOTAL	**124.15**	**18.46**	**11.02**	**2.28**	**45.89**	**46.50**	**92.38**	**13.31**

***Note: The Metropolitan Washington region has no controls on wintertime CO from area sources**

Appendix D

Non-Road Inventories and Documentation

1990 Baseline Wintertime CO Non-Road Inventory

CO Nonattainment Area Estimate (tpwd)

Equipment Category	District of Columbia	Montgomery County	Prince George's County	City of Alexandria	Arlington County	Maryland Total	Virginia Total	NAA Total
Lawn and Garden	1.47	6.24	2.99	0.24	1.08	9.23	1.31	12.01
Airport Service	0.00	0.00	0.00	0.00	0.65	0.00	0.65	0.65
Recreational-Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational-Marine	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Light Commercial	9.96	17.39	14.76	3.72	2.98	32.15	6.71	48.82
Industrial	3.35	4.40	2.95	0.67	6.44	7.35	7.11	17.81
Construction	1.53	6.26	5.53	0.60	0.38	11.79	0.99	14.30
Agricultural	0.00	0.21	0.17	0.00	0.00	0.38	0.00	0.38
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Road	**16.34**	**34.50**	**26.41**	**5.23**	**11.54**	**60.90**	**16.77**	**94.01**

2007 Wintertime CO Non-Road Uncontrolled Inventory

CO Nonattainment Area Estimate (tpwd)

Equipment Category	District of Columbia	Montgomery County	Prince George's County	City of Alexandria	Arlington County	Maryland Total	Virginia Total	NAA Total
Lawn and Garden	1.44	8.21	3.62	0.28	1.29	11.83	1.57	14.84
Airport Service	0.00	0.00	0.00	0.00	0.84	0.00	0.84	0.84
Recreational-Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational-Marine	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.04
Light Commercial	10.10	21.71	17.54	4.66	3.48	39.25	8.14	57.48
Industrial	3.28	5.79	3.56	0.79	8.19	9.35	8.98	21.62
Construction	1.50	8.24	6.68	0.72	0.46	14.92	1.18	17.60
Agricultural	0.00	0.21	0.17	0.00	0.00	0.38	0.00	0.38
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Road	**16.36**	**44.17**	**31.56**	**6.44**	**14.27**	**75.73**	**20.71**	**112.80**

2007 Wintertime CO Non-Road Controlled Inventory

CO Nonattainment Area Estimate (tpwd)

Equipment Category	District of Columbia	Montgomery County	Prince George's County	City of Alexandria	Arlington County	Maryland Total	Virginia Total	NAA Total
Lawn and Garden	1.24	7.04	3.10	0.24	1.11	10.13	1.35	12.72
Airport Service	0.00	0.00	0.00	0.00	0.65	0.00	0.65	0.65
Recreational-Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational-Marine	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.04
Light Commercial	8.65	18.61	15.03	3.99	2.98	33.64	6.97	49.27
Industrial	2.40	4.24	2.60	0.58	6.48	6.84	7.06	16.31
Construction	1.40	7.59	6.14	0.67	0.43	13.73	1.10	16.23
Agricultural	0.00	0.20	0.16	0.00	0.00	0.35	0.00	0.35
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Road	**13.73**	**37.67**	**27.03**	**5.48**	**11.66**	**64.70**	**17.14**	**95.57**

2016 Wintertime CO Non-Road Uncontrolled Inventory

CO Nonattainment Area Estimate (tpwd)

Equipment Category	District of Columbia	Montgomery County	Prince George's County	City of Alexandria	Arlington County	Maryland Total	Virginia Total	NAA Total
Lawn and Garden	1.56	9.16	4.26	0.33	1.54	13.42	1.88	16.86
Airport Service	0.00	0.00	0.00	0.00	0.84	0.00	0.84	0.84
Recreational-Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational-Marine	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.05
Light Commercial	11.15	23.74	18.57	4.91	3.69	42.31	8.60	62.07
Industrial	3.55	6.46	4.20	0.94	8.45	10.66	9.39	23.60
Construction	1.62	9.19	7.87	0.85	0.55	17.06	1.40	20.09
Agricultural	0.00	0.21	0.17	0.00	0.00	0.38	0.00	0.38
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Road	**17.93**	**48.76**	**35.08**	**7.04**	**15.08**	**83.84**	**22.12**	**123.88**

2016 Wintertime CO Non-Road Controlled Inventory

CO Nonattainment Area Estimate (tpwd)

Equipment Category	District of Columbia	Montgomery County	Prince George's County	City of Alexandria	Arlington County	Maryland Total	Virginia Total	NAA Total
Lawn and Garden	1.34	7.84	3.65	0.29	1.32	11.50	1.61	14.44
Airport Service	0.00	0.00	0.00	0.00	0.32	0.00	0.32	0.32
Recreational-Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational-Marine	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.05
Light Commercial	9.56	20.35	15.92	4.21	3.16	36.27	7.38	53.20
Industrial	0.98	1.78	1.16	0.26	3.62	2.94	3.88	7.80
Construction	1.42	8.01	6.86	0.75	0.48	14.87	1.23	17.52
Agricultural	0.00	0.17	0.14	0.00	0.00	0.31	0.00	0.31
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Road	**13.33**	**38.16**	**27.73**	**5.50**	**8.90**	**65.90**	**14.41**	**93.64**

Appendix E

Stationary Source Inventories and Documentation

District of Columbia - Wintertime CO Emissions

Point Sources

EGASv3.0 model projections of Base Year 1990 emissions

SOURCE NAME	1990 CO lb/day	1990 CO tons/day	2007 CO lb/day	2007CO tons/day	2015 CO lb/day	2015 CO tons/day
PEPCO Benning	1215.95	0.61	1215.95	0.61	1215.95	0.61
PEPCO Buzzard	49.06	0.02	49.06	0.02	49.06	0.02
Capitol Power Plant	1659.38	0.83	1494.77	0.75	1191.50	0.60
GSA West Heating	1823.19	0.91	1770.96	0.89	1722.50	0.86
GSA Central	545.75	0.27	530.12	0.27	515.61	0.26
St. Eli. Hospital	158.71	0.08	164.17	0.08	167.62	0.08
US Soldiers Home	69.98	0.03	69.28	0.03	68.42	0.03
Howard University	167.54	0.08	162.45	0.08	157.76	0.08
G.T.U. Power Plant (Georgetown Univ)	146.13	0.07	143.77	0.07	131.45	0.07
Naval Research Lab	124.37	0.06	117.88	0.06	97.54	0.05
*Solid Waste Reduction Center	703.22	0.35	-	-	-	-
DC-Point Sources Total (lb/day)	6663.29		5718.40		5317.42	
****DC-Point Sources Total (Tons/Day)**		**3.33**		**2.86**		**2.66**

* Facility closed 1992/1993.

Projected Uncontrolled CO Point Source Emissions for the Northern Virginia CO Maintenance Area

Regis	Plant Name	County	County Description	SIC	Stack	Point	Segment	SCC	Pollutant	1990 Annual Emissions (tons)	1990 Winter Daily Emissions (tons)	2007 Growth Factor	2007 Annual Emissions (tons)	2007 Winter Daily Emissions (tons)	2016 Growth Factor	2016 Annual Emissions (tons)	2016 Winter Daily Emissions (tons)
70005	MWAA - Ronald Reagan National Airport	013	Arlington County	9621	1	001	1	10300401	CO	0.000	0.000	0.8514	0.000	0.000	0.6524	0.000	0.000
70005	MWAA - Ronald Reagan National Airport	013	Arlington County	9621	1	002	1	10300401	CO	0.673	0.002	0.8514	0.573	0.002	0.6524	0.439	0.001
70005	MWAA - Ronald Reagan National Airport	013	Arlington County	9621	1	003	1	10300401	CO	0.853	0.002	0.8514	0.726	0.002	0.6524	0.556	0.001
70005	MWAA - Ronald Reagan National Airport	013	Arlington County	9621	2	004	1	10300401	CO	1.273	0.003	0.8514	1.083	0.003	0.6524	0.830	0.002
70005	MWAA - Ronald Reagan National Airport	013	Arlington County	9621	3	005	1	10300401	CO	0.753	0.002	0.8514	0.641	0.002	0.6524	0.491	0.001
									TOTAL	**3.550**	**0.010**		**3.022**	**0.008**		**2.316**	**0.005**
70030	Pentagon Reservation	013	Arlington County	9711	1	001	1	10300401	CO	0.000	0.000	0.8514	0.000	0.000	0.6524	0.000	0.000
70030	Pentagon Reservation	013	Arlington County	9711	1	001	2	10300501	CO	1.163	0.003	0.8514	0.990	0.003	0.6524	0.758	0.002
70030	Pentagon Reservation	013	Arlington County	9711	1	001	3	10300601	CO	2.520	0.007	1.0986	2.768	0.008	1.0642	2.682	0.008
70030	Pentagon Reservation	013	Arlington County	9711	2	002	1	10300501	CO	0.190	0.001	0.8514	0.162	0.000	0.6524	0.124	0.000
70030	Pentagon Reservation	013	Arlington County	9711	2	002	2	10300602	CO	1.400	0.004	1.0986	1.538	0.004	1.0642	1.490	0.004
70030	Pentagon Reservation	013	Arlington County	9711	2	003	1	10300501	CO	0.098	0.000	0.8514	0.083	0.000	0.6524	0.064	0.000
70030	Pentagon Reservation	013	Arlington County	9711	2	003	2	10300602	CO	0.805	0.002	1.0986	0.884	0.003	1.0642	0.857	0.003
70030	Pentagon Reservation	013	Arlington County	9711	3	004	1	10300501	CO	0.150	0.000	0.8514	0.128	0.000	0.6524	0.098	0.000
70030	Pentagon Reservation	013	Arlington County	9711	3	004	2	10300602	CO	1.348	0.004	1.0986	1.480	0.004	1.0642	1.434	0.004
									TOTAL	**7.673**	**0.021**		**8.033**	**0.022**		**7.506**	**0.022**
71714	US Army - Fort Myer	013	Arlington County	9711	1	001	1	10300401	CO	1.220	0.003	0.8514	1.039	0.003	0.6524	0.796	0.002
71714	US Army - Fort Myer	013	Arlington County	9711	1	001	2	10300602	CO	0.000	0.000	1.0986	0.000	0.000	1.0642	0.000	0.000
71714	US Army - Fort Myer	013	Arlington County	9711	2	002	1	10300401	CO	1.220	0.003	0.8514	1.039	0.004	0.6524	0.796	0.004
71714	US Army - Fort Myer	013	Arlington County	9711	2	002	2	10300602	CO	0.000	0.000	1.0986	0.000	0.000	1.0642	0.000	0.000
71714	US Army - Fort Myer	013	Arlington County	9711	3	003	1	10300401	CO	0.655	0.002	0.8514	0.558	0.002	0.6524	0.427	0.002
71714	US Army - Fort Myer	013	Arlington County	9711	4	004	1	10300401	CO	0.655	0.002	0.8514	0.558	0.002	0.6524	0.427	0.002
71714	US Army - Fort Myer	013	Arlington County	9711	6	006	1	10300404	CO	0.045	0.000	0.8514	0.038	0.000	0.6524	0.029	0.000
71714	US Army - Fort Myer	013	Arlington County	9711	7	007	1	10300404	CO	0.045	0.000	0.8514	0.038	0.000	0.6524	0.029	0.000
									TOTAL	**3.840**	**0.011**		**3.269**	**0.011**		**2.505**	**0.010**
71868	Bergmanns Inc	013	Arlington County	7216	1	001	1	10300501	CO	0.148	0.001	0.8514	0.126	0.001	0.6524	0.096	0.001
71868	Bergmanns Inc	013	Arlington County	7216	1	001	2	10300603	CO	0.020	0.000	1.0986	0.022	0.000	1.0642	0.021	0.000
71868	Bergmanns Inc	013	Arlington County	7216	2	002	1	10300501	CO	0.000	0.000	0.8514	0.000	0.000	0.6524	0.000	0.000
71868	Bergmanns Inc	013	Arlington County	7216	2	002	2	10300603	CO	0.000	0.000	1.0986	0.000	0.000	1.0642	0.000	0.000
71868	Bergmanns Inc	013	Arlington County	7216	3	003	1	10300603	CO	0.020	0.000	1.0986	0.022	0.000	1.0642	0.021	0.000
									TOTAL	**0.188**	**0.001**		**0.170**	**0.001**		**0.139**	**0.001**
70228	Potomac River Generating Station	510	Alexandria City	4911	1	001	1	10100212	CO	24.765	0.068	1.1679	28.923	0.058	1.1191	27.715	0.038
70228	Potomac River Generating Station	510	Alexandria City	4911	1	001	2	10100501	CO	1.025	0.003	1.0000	1.025	0.003	1.0000	1.025	0.003
70228	Potomac River Generating Station	510	Alexandria City	4911	2	002	1	10100212	CO	33.403	0.092	1.1679	39.011	0.078	1.1191	37.381	0.051
70228	Potomac River Generating Station	510	Alexandria City	4911	2	002	2	10100501	CO	1.080	0.003	1.0000	1.080	0.003	1.0000	1.080	0.003
70228	Potomac River Generating Station	510	Alexandria City	4911	3	003	1	10100212	CO	70.989	0.195	1.1679	82.908	0.166	1.1191	79.443	0.108
70228	Potomac River Generating Station	510	Alexandria City	4911	3	003	2	10100501	CO	0.268	0.001	1.0000	0.268	0.001	1.0000	0.268	0.000
70228	Potomac River Generating Station	510	Alexandria City	4911	4	004	1	10100212	CO	70.217	0.192	1.1679	82.006	0.164	1.1191	78.580	0.107
70228	Potomac River Generating Station	510	Alexandria City	4911	4	004	2	10100501	CO	0.203	0.001	1.0000	0.203	0.000	1.0000	0.203	0.000
70228	Potomac River Generating Station	510	Alexandria City	4911	5	005	1	10100212	CO	73.133	0.209	1.1679	85.412	0.178	1.1191	81.843	0.116
70228	Potomac River Generating Station	510	Alexandria City	4911	5	005	2	10100501	CO	0.108	0.000	1.0000	0.108	0.000	1.0000	0.108	0.000
									TOTAL	**275.189**	**0.763**		**320.942**	**0.651**		**307.644**	**0.428**
70579	Virginia Paving Company Alexandria Plan	510	Alexandria City	2951	1	20	1	30500205	CO	11.738	0.065	1.1975	14.056	0.078	1.3129	15.411	0.085
									TOTAL	**11.738**	**0.065**		**14.056**	**0.078**		**15.411**	**0.085**
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	1	001	1	10200501	CO	0.000	0.000	0.9456	0.000	0.000	0.9084	0.000	0.000
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	1	001	2	10201201	CO	17.000	0.049	1.0000	17.000	0.049	1.0000	17.000	0.049
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	2	002	1	10200501	CO	0.000	0.000	0.9456	0.000	0.000	0.9084	0.000	0.000
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	2	002	2	10201201	CO	18.000	0.051	1.0000	18.000	0.051	1.0000	18.000	0.051
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	3	003	1	10200501	CO	0.000	0.000	0.9456	0.000	0.000	0.9084	0.000	0.000
71895	Covanta Alexandria/Arlington, Inc.	510	Alexandria City	4952	3	003	2	10201201	CO	18.000	0.051	1.0000	18.000	0.051	1.0000	18.000	0.051
									TOTAL	**53.000**			**53.000**	**0.151**		**53.000**	**0.151**
									TOTAL	**355.177**	**0.870**		**402.494**	**0.923**		**388.521**	**0.703**

Maryland Point Source Inventory for Wintertime CO (Montgomery and Prince George's Counties)

COUNTY	PLANT NAME	POINT	1990 Base tons/day	2007 GROWN tons/day	2015 GROWN tons/day
Montgomery	CHEVY CHASE CHEVROLET	004	0	0	0
Montgomery	CHEVY CHASE CHEVROLET	005	0	0	0
Montgomery	POTOMAC ELECTRIC DICKERSON	001	0.35784	0.417921336	0.400458744
Montgomery	POTOMAC ELECTRIC DICKERSON	002	0.3444	0.40222476	0.38541804
Montgomery	POTOMAC ELECTRIC DICKERSON	003	0.3633	0.42429807	0.40656903
Montgomery	POTOMAC ELECTRIC DICKERSON	004	0.03036	0.03036	0.03036
Montgomery	POTOMAC ELECTRIC DICKERSON	005	0	0	0
Montgomery	BELL LAUNDRY	002	0	0	0
Montgomery	BELL LAUNDRY	005	0	0	0
Montgomery	BELL LAUNDRY	006	0	0	0
Montgomery	GIANT FOOD - SILVER SPRING	002	0.002	0.0021972	0.0021284
Montgomery	GIANT FOOD - SILVER SPRING	003	0.002	0.0021972	0.0021284
Montgomery	GIANT FOOD - SILVER SPRING	001	0	0	0
Montgomery	NATIONAL INSTITUTE OF HEALTH	003	0.034	0.0289476	0.0221816
Montgomery	NATIONAL INSTITUTE OF HEALTH	004	0.0275	0.0234135	0.017941
Montgomery	NATIONAL INSTITUTE OF HEALTH	005	0.0256	0.02179584	0.01670144
Montgomery	NATIONAL INSTITUTE OF HEALTH	006	0.01	0.008514	0.006524
Montgomery	NATIONAL INSTITUTE OF HEALTH	001	0.001	0.001	0.001
Montgomery	NATIONAL INSTITUTE OF HEALTH	002	0.0005	0.0005	0.0005
Montgomery	NATIONAL INSTITUTE OF HEALTH	007	0.003	0.003	0.003
Montgomery	TOWN AND COUNTRY CLEANERS	002	0	0	0
Montgomery	TOWN AND COUNTRY CLEANERS	001	0	0	0
Montgomery	HILL AND SAUNDERS FORD - WHEATON	001	0	0	0
Montgomery	HILL AND SAUNDERS FORD - WHEATON	003	0	0	0
Montgomery	HILL AND SAUNDERS FORD - WHEATON	004	0	0	0
Montgomery	ROCKVILLE CRUSHED STONE	004	0	0	0
Montgomery	ROCKVILLE CRUSHED STONE	005	0	0	0
Montgomery	ROCKVILLE CRUSHED STONE	003	0	0	0
Montgomery	ROCKVILLE CRUSHED STONE	001	0	0	0
Montgomery	ROCKVILLE CRUSHED STONE	002	0	0	0
Montgomery	PARKWAY CLEANERS & DYERS	001	0	0	0
Montgomery	PARKWAY CLEANERS & DYERS	002	0	0	0
Montgomery	PRESTIGE CLEANERS	001	0	0	0
Montgomery	PRESTIGE CLEANERS	002	-0	-0	-0
Montgomery	STA-BRITE CLEANERS	001	0	0	0
Montgomery	GORDON'S, HERB AUTO WORLD	001	0	0	0
Montgomery	GORDON'S, HERB AUTO WORLD	002	0	0	0
Montgomery	NATIONAL NAVAL MEDICAL CENTER	003	0.0252	0.02768472	0.02681784
Montgomery	NATIONAL NAVAL MEDICAL CENTER	004	0.0336	0.03691296	0.03575712
Montgomery	NATIONAL NAVAL MEDICAL CENTER	005	0.018	0.0197748	0.0191556
Montgomery	NATIONAL NAVAL MEDICAL CENTER	006	0.0104	0.01142544	0.01106768
Montgomery	NATIONAL NAVAL MEDICAL CENTER	008	0.0016	0.00175776	0.00170272
Montgomery	NATIONAL NAVAL MEDICAL CENTER	009	0.0035	0.0029799	0.0022834
Montgomery	NATIONAL NAVAL MEDICAL CENTER	010	0.0035	0.0029799	0.0022834
Montgomery	NATIONAL NAVAL MEDICAL CENTER	011	0.0035	0.0029799	0.0022834
Montgomery	NATIONAL NAVAL MEDICAL CENTER	012	0.0035	0.0029799	0.0022834
Montgomery	NATIONAL NAVAL MEDICAL CENTER	007	0	0	0
Montgomery	NATIONAL NAVAL MEDICAL CENTER	001	0	0	0
Montgomery	DAY, F.O. BITUMINOUS-SOUTHLAWN LANE	001	-0	-0	-0
Montgomery	DAY, F.O. - BITUMINOUS - PINEY MTG	001	0.00085714	0.001026429	0.001125343
Montgomery	TARO CLEANERS	001	0	0	0
Montgomery	EU SERVICES	001	0	0	0
Montgomery	EU SERVICES	002	0	0	0
Montgomery	EU SERVICES	003	0	0	0
Montgomery	EU SERVICES	004	0	0	0
Montgomery	FITZGERALD BUICK/COLONIAL DODGE	001	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	002	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	003	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	004	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	005	0	0	0

COUNTY	PLANT NAME	POINT	1990 Base tons/day	2007 GROWN tons/day	2015 GROWN tons/day
Montgomery	PRESSTAR PRINTING CORPORATION	006	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	007	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	008	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	009	0	0	0
Montgomery	PRESSTAR PRINTING CORPORATION	001	0.0005	0.0007649	0.00083865
Montgomery	KELLY AUTO BODY	001	0	0	0
Montgomery	KELLY AUTO BODY	002	0	0	0
Montgomery	SMITH LITHO	001	0	0	0
Montgomery	SMITH LITHO	003	0	0	0
Montgomery	SMITH LITHO	007	0	0	0
Montgomery	SMITH LITHO	009	0	0	0
Montgomery	SMITH LITHO	011	0.0005	0.0007649	0.00083865
Montgomery	SMITH LITHO	005	0	0	0
Montgomery	SMITH LITHO	006	0	0	0
Montgomery	SMITH LITHO	008	0	0	0
Montgomery	SMITH LITHO	012	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	001	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	002	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	003	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	004	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	005	0	0	0
Montgomery	REPRODUCTIONS - RICKENBACKER DRIVE	006	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	003	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	004	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	005	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	001	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	002	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	011	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	006	-0	-0	-0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	007	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	008	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	010	0	0	0
Prince George's	GIANT FOOD - 2300 BEAVER ROAD	009	0	0	0
Prince George's	UNIVERSITY OF MARYLAND	003	0.0414	0.03524796	0.02700936
Prince George's	UNIVERSITY OF MARYLAND	005	0.0648	0.05517072	0.04227552
Prince George's	UNIVERSITY OF MARYLAND	006	0.0182	0.01549548	0.01187368
Prince George's	UNIVERSITY OF MARYLAND	004	0.0228	0.02504808	0.02426376
Prince George's	UNIVERSITY OF MARYLAND	007	0	0	0
Prince George's	UNIVERSITY OF MARYLAND	001	0	0	0
Prince George's	UNIVERSITY OF MARYLAND	002	0	0	0
Prince George's	POTOMAC ELECTRIC - CHALK POINT	001	0.5112	0.59703048	0.57208392
Prince George's	POTOMAC ELECTRIC - CHALK POINT	002	0.53316	0.622677564	0.596659356
Prince George's	POTOMAC ELECTRIC - CHALK POINT	013	0.029	0.029	0.029
Prince George's	POTOMAC ELECTRIC - CHALK POINT	007	1.5428	1.5428	1.5428
Prince George's	POTOMAC ELECTRIC - CHALK POINT	008	1.24	1.24	1.24
Prince George's	POTOMAC ELECTRIC - CHALK POINT	011	0	0	0
Prince George's	POTOMAC ELECTRIC - CHALK POINT	005	0.033	0.033	0.033
Prince George's	POTOMAC ELECTRIC - CHALK POINT	006	0	0	0
Prince George's	POTOMAC ELECTRIC - CHALK POINT	009	0.07498	0.07498	0.07498
Prince George's	POTOMAC ELECTRIC - CHALK POINT	010	0.029	0.029	0.029
Prince George's	POTOMAC ELECTRIC - CHALK POINT	012	0.029	0.029	0.029
Prince George's	SMITH, A.H. - BRANDYWINE #2	002	0	0	0
Prince George's	SMITH, A.H. - BRANDYWINE #2	001	0.003	0.0035925	0.0039387
Prince George's	SMITH, A.H. - BRANDYWINE #2	003	0	0	0
Prince George's	DURON, INCORPORATED	002	0	0	0
Prince George's	DURON, INCORPORATED	001	0	0	0
Prince George's	DURON, INCORPORATED	012	0	0	0
Prince George's	DURON, INCORPORATED	004	0	0	0
Prince George's	DURON, INCORPORATED	005	0	0	0
Prince George's	DURON, INCORPORATED	007	0	0	0
Prince George's	DURON, INCORPORATED	010	0	0	0
Prince George's	STONE INDUSTRIAL	001	0	0	0

COUNTY	PLANT NAME	POINT	1990 Base tons/day	2007 GROWN tons/day	2015 GROWN tons/day
Prince George's	STONE INDUSTRIAL	002	0.003	0.0031032	0.0031551
Prince George's	STONE INDUSTRIAL	005	0	0	0
Prince George's	STONE INDUSTRIAL	003	0	0	0
Prince George's	STONE INDUSTRIAL	004	0	0	0
Prince George's	EDITORS PRESS	001	0.0004	0.00061192	0.00067092
Prince George's	EDITORS PRESS	002	0.0005	0.0007649	0.00083865
Prince George's	EDITORS PRESS	004	0	0	0
Prince George's	EDITORS PRESS	005	0.0005	0.0007649	0.00083865
Prince George's	SAFEWAY BREAD PLANT	005	0	0	0
Prince George's	SAFEWAY BREAD PLANT	006	0	0	0
Prince George's	SAFEWAY BREAD PLANT	002	0	0	0
Prince George's	SAFEWAY BREAD PLANT	001	0	0	0
Prince George's	SAFEWAY BREAD PLANT	003	0.00032	0.000363488	0.000398496
Prince George's	SAFEWAY BREAD PLANT	004	0.001	0.0011359	0.0012453
Prince George's	MARYLAND CLAY PRODUCTS	006	0.4658	0.54526548	0.62724628
Prince George's	MARYLAND CLAY PRODUCTS	007	0	0	0
Prince George's	MARYLAND CLAY PRODUCTS	008	0	0	0
Prince George's	CRAFTSMAN PRESS	001	0	0	0
Prince George's	CRAFTSMAN PRESS	002	0	0	0
Prince George's	CRAFTSMAN PRESS	003	0.0005	0.0007649	0.00083865
Prince George's	CRAFTSMAN PRESS	004	0.0005	0.0007649	0.00083865
Prince George's	CRAFTSMAN PRESS	005	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	036	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	003	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	004	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	005	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	006	0.0096	0.00817344	0.00626304
Prince George's	ANDREWS AIR FORCE BASE	007	0.0077	0.00655578	0.00502348
Prince George's	ANDREWS AIR FORCE BASE	008	0.0105	0.0089397	0.0068502
Prince George's	ANDREWS AIR FORCE BASE	009	0.0112	0.00953568	0.00730688
Prince George's	ANDREWS AIR FORCE BASE	010	0.009	0.0076626	0.0058716
Prince George's	ANDREWS AIR FORCE BASE	011	0.023	0.0195822	0.0150052
Prince George's	ANDREWS AIR FORCE BASE	012	0.036	0.0306504	0.0234864
Prince George's	ANDREWS AIR FORCE BASE	013	0.0048	0.00408672	0.00313152
Prince George's	ANDREWS AIR FORCE BASE	014	0.0546	0.04648644	0.03562104
Prince George's	ANDREWS AIR FORCE BASE	015	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	021	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	022	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	025	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	026	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	032	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	037	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	038	-0	-0	-0
Prince George's	ANDREWS AIR FORCE BASE	039	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	040	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	041	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	042	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	043	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	044	0.0012	0.00102168	0.00078288
Prince George's	ANDREWS AIR FORCE BASE	047	0.0015	0.0012771	0.0009786
Prince George's	ANDREWS AIR FORCE BASE	059	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	061	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	063	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	064	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	065	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	067	-0	-0	-0
Prince George's	ANDREWS AIR FORCE BASE	054	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	055	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	056	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	057	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	034	0.0005	0.00056595	0.000655
Prince George's	ANDREWS AIR FORCE BASE	045	0	0	0

COUNTY	PLANT NAME	POINT	1990 Base tons/day	2007 GROWN tons/day	2015 GROWN tons/day
Prince George's	ANDREWS AIR FORCE BASE	046	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	048	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	049	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	051	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	071	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	033	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	001	0	0	0
Prince George's	ANDREWS AIR FORCE BASE	002	0.001	0.001	0.001
Prince George's	AGRICULTURAL RESEARCH CENTER	003	0.0012	0.00102168	0.00078288
Prince George's	AGRICULTURAL RESEARCH CENTER	004	0.0012	0.00102168	0.00078288
Prince George's	AGRICULTURAL RESEARCH CENTER	005	0.0014	0.00119196	0.00091336
Prince George's	AGRICULTURAL RESEARCH CENTER	006	0.0014	0.00119196	0.00091336
Prince George's	AGRICULTURAL RESEARCH CENTER	007	0.0014	0.00119196	0.00091336
Prince George's	AGRICULTURAL RESEARCH CENTER	008	0.0032	0.00272448	0.00208768
Prince George's	AGRICULTURAL RESEARCH CENTER	009	0.0032	0.00272448	0.00208768
Prince George's	AGRICULTURAL RESEARCH CENTER	010	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	011	0.0032	0.00272448	0.00208768
Prince George's	AGRICULTURAL RESEARCH CENTER	012	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	013	0.0006	0.00051084	0.00039144
Prince George's	AGRICULTURAL RESEARCH CENTER	014	0.0006	0.00051084	0.00039144
Prince George's	AGRICULTURAL RESEARCH CENTER	015	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	016	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	017	0.001	0.0008514	0.0006524
Prince George's	AGRICULTURAL RESEARCH CENTER	018	0.0012	0.00102168	0.00078288
Prince George's	AGRICULTURAL RESEARCH CENTER	019	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	020	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	021	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	022	0.0016	0.00136224	0.00104384
Prince George's	AGRICULTURAL RESEARCH CENTER	023	0.004	0.0034056	0.0026096
Prince George's	AGRICULTURAL RESEARCH CENTER	024	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	025	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	026	0.0028	0.00238392	0.00182672
Prince George's	AGRICULTURAL RESEARCH CENTER	027	-0	-0	-0
Prince George's	AGRICULTURAL RESEARCH CENTER	028	0.0014	0.00119196	0.00091336
Prince George's	AGRICULTURAL RESEARCH CENTER	029	0.0014	0.00119196	0.00091336
Prince George's	AGRICULTURAL RESEARCH CENTER	030	0.0042	0.00357588	0.00274008
Prince George's	AGRICULTURAL RESEARCH CENTER	031	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	032	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	033	0	0	0
Prince George's	AGRICULTURAL RESEARCH CENTER	001	0.0005	0.0005	0.0005
Prince George's	AGRICULTURAL RESEARCH CENTER	002	0.002	0.002	0.002
Prince George's	NASA GODDARD SPACE CENTER	006	0	0	0
Prince George's	BANNER-HAMILTON CLEANERS	001	0	0	0
Prince George's	SILVER HILL CLEANERS	002	0	0	0
Prince George's	SILVER HILL CLEANERS	003	0	0	0
Prince George's	FLAIR CLEANERS	003	0	0	0
Prince George's	FLAIR CLEANERS	001	0	0	0
Prince George's	PEELERS DRY CLEANERS	001	0	0	0
Prince George's	PEELERS DRY CLEANERS	004	0	0	0
Prince George's	PEELERS DRY CLEANERS	002	0	0	0
Prince George's	PEELERS DRY CLEANERS	005	0	0	0
Prince George's	ADELPHI (DIAMOND LABS)	007	0	0	0
Prince George's	HOLLADAY TYLER PRINTING	001	0.0005	0.0007649	0.00083865
Prince George's	HOLLADAY TYLER PRINTING	005	0.0005	0.0007649	0.00083865
Prince George's	HOLLADAY TYLER PRINTING	006	0.0005	0.0007649	0.00083865
Prince George's	HOLLADAY TYLER PRINTING	007	0.0005	0.0007649	0.00083865
Prince George's	HOLLADAY TYLER PRINTING	008	0.0005	0.0007649	0.00083865
Prince George's	CAIRNS, BILL PONTIAC	001	0	0	0
Prince George's	CAIRNS, BILL PONTIAC	002	0	0	0
Prince George's	PRINTERS II	001	0	0	0
Prince George's	PRINTERS II	002	0	0	0
Prince George's	PRINTERS II	003	0.0005	0.0007649	0.00083865

COUNTY	PLANT NAME	POINT	1990 Base tons/day	2007 GROWN tons/day	2015 GROWN tons/day
Prince George's	PRINTERS II	005	0	0	0
Prince George's	ANACONDA PRESS	002	0	0	0
Prince George's	ANACONDA PRESS	005	0	0	0
Prince George's	ANACONDA PRESS	006	0	0	0
Prince George's	ANACONDA PRESS	007	0	0	0
Prince George's	KELLY PRESS	003	0	0	0
Prince George's	KELLY PRESS	004	0	0	0
Prince George's	KELLY PRESS	005	0	0	0
Prince George's	KELLY PRESS	007	0	0	0
Prince George's	KELLY PRESS	002	0	0	0
Prince George's	KELLY PRESS	006	0	0	0
Prince George's	KELLY PRESS	001	0	0	0
Prince George's	EVERETT'S CLEANERS	001	0	0	0
Prince George's	OFFICIAL CLEANERS	002	0	0	0
Prince George's	PEAKE PRINTERS	004	0	0	0
Prince George's	PEAKE PRINTERS	003	0	0	0
Prince George's	PRINCE GEORGE'S CO. CORRECTIONAL FACILT	001	0.00104444	0.001147427	0.001111498
Prince George's	PRINCE GEORGE'S CO. CORRECTIONAL FACILT	002	0.00104444	0.001147427	0.001111498
Prince George's	PRINCE GEORGE'S CO. CORRECTIONAL FACILT	003	0.00064103	0.000704231	0.000682179
Prince George's	PRINCE GEORGE'S CO. CORRECTIONAL FACILT	004	0.00064103	0.000704231	0.000682179
Prince George's	PRINCE GEORGE'S CO. CORRECTIONAL FACILT	005	0.00064103	0.000704231	0.000682179
Prince George's	HAMPTON CLEANERS	001	0	0	0
Prince George's	MATTERA LITHO	001	0	0	0
Prince George's	MATTERA LITHO	002	0	0	0
Prince George's	MATTERA LITHO	003	0	0	0
Prince George's	MATTERA LITHO	004	0	0	0
Prince George's	MATTERA LITHO	005	0	0	0
Prince George's	CORPORATE PRESS	001	0	0	0
Prince George's	CORPORATE PRESS	002	0	0	0
Prince George's	CORPORATE PRESS	003	0	0	0
Prince George's	CORPORATE PRESS	005	0	0	0
Prince George's	CORPORATE PRESS	006	0	0	0
	TOTAL (tpd CO)		**6.17**	**6.55**	**6.44**

Appendix F

Regional Carbon Monoxide Monitor Data

Carbon Monoxide Individual Monitor Data for Washington Region																		
Second Highest 8-hour Average Concentrations (ppm)																		
YEAR **MONITOR**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
West End Library	6.6	7.8	9.1		6.4	7.6	8.8	5.2	6.7	5.5	4.5	3.3						
C&P Telephone	8.9	8.6	9.4		5.5	7.2	8.2	5.5	7.6	5.1	6.2	4.5	5.2	4.4	3.5	3.3	3.3	3.2
Forestry	3.0																	
River Terrace									6.3	6.3	5.3	4.2	6.4	4.6	5.6	5.0	3.7	4.5
Rockville Pike	6.6	7.7	7.2	7.0	5.7	5.1	4.8	4.0	4.4	4.2	3.4	3.0	2.5					
Bladensburg	10.0	8.3	11.4	8.1	9.4	7.9	7.2	6.5	5.9	6.1	6.3	4.5	6.8	4.8	4.3			
Suitland	4.4																	
Arlington	5.4	6.2	6.3	4.8	5.4	4.5	4.3	3.8	4.9	4.1	4.6	4.0	2.4	2.3	3.8	2.7	2.7	2.6
Cub Run				7.5	5.8	4.8	4.4	1.3					1.6	1.3	1.2	1.5	1.3	1.2
Mt Vernon	7.0	6.4	6.8		3.0	3.4	2.5	4.2	1.5	1.8	1.5	1.8	4.3	3.3				
Seven Corners	3.2	3.6	3.7	3.3	6.5	4.4	4.9	2.7	4.1	4.8	4.3	3.9	2.1	1.7	2.1	2.3	1.7	
Lewinsville	6.2	5.0	6.3	6.8	6.5	5.0	4.0	4.8	3.2	2.3	2.6	3.0	4.6	2.6	3.1	3.5	3.0	2.3
Alexandria	6.7	6.5	7.9	6.5	4.4	3.0	3.5	3.9	5.4	4.6	4.0	4.4	3.3	3.5	3.6	2.9	2.4	2.4
Massey	5.2	7.5	4.3	4.9				3.4	4.8	4.4	3.8	3.7						
Franconia															1.8	1.9	1.9	1.5
Mason Government Center																		1.5
HIGHEST	10.0	8.6	11.4	8.1	9.4	7.9	8.8	6.5	7.6	6.3	6.3	4.5	6.8	4.8	5.6	5.0	3.7	4.5
LOWEST	3.0	3.6	3.7	3.3	3.0	3.0	2.5	1.3	1.5	1.8	1.5	1.8	1.6	1.3	1.2	1.5	1.3	1.2

Appendix G

Information Related to Public Hearings on the Draft Maintenance Plan

Hearing Notices

Comments Received and Response to Comments

Public Hearings on Washington Region's CO Maintenance Plan

January 22, 2004 6:00 pm	Maryland Dept. Of the Environment High Point High School 3601 Powder Mill Road Beltsville, MD 20705
January 21, 2004 11:00 am	Northern Regional Office Virginia Dept. Of Environmental Quality 13901 Crown Court Woodbridge, VA
January 20, 2004 6:00 pm	District of Columbia D.C. Dept. Of Health Old City Council Chambers One Judiciary Square 441 4th Street, NW Washington, D.C.

PUBLIC COMMENT DEADLINES and Addresses:

MWAQC: Email: mwaqcpubliccomment@mwcog.org

Virginia: **5:00 pm, January 21, 2004**
Director, Office of Regulatory Development
Dept. of Environmental Quality
P.O. Box 10009
Richmond, VA 23240
Email: ramann@deq.state.va.us

Maryland: **5:00 pm, January 22, 2004**
Mr. Randall Carroll
MDE, ARMA
1800 Washington Blvd, STE 730
Baltimore, MD 21230
Email: Rcarroll@mde.state.md.us

D.C. DOH **4:00 pm, January 20, 2004**
Mr. Abraham Hagos
D.C. DOH, EHA
51 N. Street, NE
Washington, D.C. 20002
Email: abraham.hagos@dc.gov

District of Columbia Public Hearing Notice

2600 Legal Notices

GOVERNMENT OF THE DISTRICT COLUMBIA DEPARTMENT OF HEALTH NOTICE OF PUBLIC HEARING ON AIR QUALITY ISSUES

Notice is hereby given that a public hearing will be held on January 20, 2004 at 6:00 p.m. in the auditorium off the Lobby at One Judiciary Square, 441 4th Street, NW, Washington, D.C. This hearing provides interested parties an opportunity to comment on: 1) a proposed revision to the District's State Implementation Plan (SIP) for the Washington, DC-MD-VA ozone nonattainment area; 2) proposed amendments to Chapter 3 of Title 20 of the District of Columbia Municipal Regulations (20 DCMR) to include a fee penalty provision in the Title V regulations if the Washington, DC-MD-VA nonattainment area fails to attain the 1-hr ozone standard in 2005and the ; and 3) proposed revision to the Maintenance Plan for carbon monoxide for the Washington, DC-MD-VA carbon monoxide attainment area.

The proposed SIP revises the one submitted in August 2003. The revised plan includes commitments by the District of Columbia (DC) and the two states to meet Clean Air Act requirements for severe ozone nonattainment areas. The Severe Area Attainment Plan is intended to show the progress being made to improve air quality in the Washington nonattainment area and the efforts underway to assure that all necessary steps are taken to reach the federal health standard for ground-level ozone by 2005. The plan has been prepared by the Metropolitan Washington Air Quality Committee (MWAQC) The Revised Carbon Monoxide Maintenance Plan demonstrates that the Metropolitan Washington DC-MD-VA area is in continued attainment with the 8-hour carbon monoxide standard, which was Metropolitan Washington DC-MD-VA attained in 1991. The revised maintenance plan must provide for maintenance of the carbon monoxide standard for 20 years after attainment. This maintenance plan provides for attainment of the carbon monoxide standard in the Washington, DC-MD-VA attainment area through March 16, 2016.

The proposed plan was prepared by the Metropolitan Washington Air Quality Committee (MWAQC), which consists of elected officials from the affected localities and representatives of the states and DC transportation and air quality planning agencies. On December 17, 2003, MWAQC approved the proposed plan and DC and the states are releasing it for public review and comment. The proposed air quality plan is available online at http://www.mwcog.org/environment/air/

Copies of the proposed SIP revisions and, the draft proposed amendment to 20 DCMR are available for public review during normal business hours at the offices of the Environmental Health Administration (EHA), 51 N Street, NE, Room 6051, Washington, D.C. 20002, and at the following D.C. Public Library branches: 901 G Street, NW; Connecticut Avenue & McKinley Street, NW; 37th Street & Alabama Avenue, SE; Wisconsin Avenue & R Street, NW; 18th Street & Rhode Island Avenue, NE.

Interested parties wishing to testify at this hearing should furnish in writing their names, addresses, telephone numbers and affiliation, if any to Mr. Abraham Hagos at EHA by 4:00 p.m., January 20, 2004. No written comments will be accepted after January 20, 2004. For more information, call Mr. Hagos at 202-535-1354 or email him at abraham.hagos@dc.gov

PUBLIC HEARING NOTICE

The Department of Environmental Quality (DEQ) will hold a public hearing on three proposed revisions to the Commonwealth of Virginia State Implementation Plan (SIP). The hearing will be held in the Conference Room, Department of Environmental Quality, Northern Virginia Regional Office, 13901 Crown Court, Woodbridge, Virginia, at 11:00 a.m. on January 21, 2004, to accept testimony concerning the proposed revisions. Using the procedures explained below, the DEQ will also accept written comments until 5:00, January 21, 2004.

I. Revised Attainment Plan for the Washington DC-MD-VA Ozone Nonattainment Area

The proposed revision (State Implementation Plan (SIP) Demonstrating Rate of Progress for 2002 and 2005, Revision of 1990 Baseline Emissions, and Severe Area Attainment for the Washington, DC-MD-VA Nonattainment Area) consists of: rate of progress demonstrations for the periods 1999-2002 and 2002-2005, a revised baseline emissions inventory for 1990, and an attainment demonstration for 2005. In addition, the plan includes commitments by the Commonwealth to meet Clean Air Act requirements for severe nonattainment areas, and to meet additional EPA requirements for the Washington region, including: a contingency plan for 1999 rate of progress, contingency plans for the 2002 and 2005 rates of progress, an analysis of reasonably available control measures, and transportation control measures.

This proposed revision amends the revision submitted in August 19, 2003. The plan submitted on August 19, 2003 did not include contingency measures because they were not necessary for a determination of adequacy for the mobile emissions budget. The revised plan includes contingency plans for 2002 and 2005. In addition, the mobile emissions inventories, as well as stationary, area and non-road emissions inventories, have been revised using the latest population forecasts approved for the Washington region for 2005, Cooperative Forecast Round 6.3. The controlled inventories have been revised to reflect the use of a package of voluntary measures in the attainment strategy and additional technical corrections have been made to some inventory categories.

The Severe Area Attainment Plan is intended to show the progress being made to improve air quality in the Washington nonattainment area and the efforts underway to assure that all necessary steps are taken to reach the federal health standard for ground-level ozone by 2005. The plan has been prepared to comply with the Clean Air Act and with the requirements stated in EPA's reclassification notice of the Washington region (January 24, 2003, 68 FR 3410) and in EPA's conditional approval of the Washington region's air quality plan (April 17, 2003, 68 FR 19106).

The proposal was prepared by the Metropolitan Washington Air Quality Committee (MWAQC), which consists of elected officials from the affected localities and representatives of state transportation and air quality planning agencies. On December 17, 2003, MWAQC approved the proposal for release for public review and comment. Comments are invited on the entire proposal, the proposed control measures and the proposed contingency measures.

The proposal is available online at http://www.mwcog.org/environment/air/

II. Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the Washington DC-MD-VA Carbon Monoxide Maintenance Area

The proposed revision (Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the Washington DC-MD-VA Carbon Monoxide Maintenance Area) consists of a demonstration that the Washington DC-MD-VA area is in continued attainment with the 8-hour carbon monoxide standard. The Metropolitan Washington DC-MD-VA region attained the federal carbon monoxide standard in the 1990s. In accordance with Section 175A(a) of the Clean Air Act, the Commonwealth submitted a carbon monoxide maintenance plan for the Washington region covering the period 1996-2007. EPA approved this maintenance plan effective March 16, 1996. Section 175A(b) of the Act requires the Commonwealth to submit a second maintenance plan within eight years of its redesignation as an attainment area. The revised maintenance plan must provide for maintenance of the carbon monoxide standard for 20 years after attainment. This maintenance plan is submitted in fulfillment of the Section 175A(b) requirement, and provides for attainment of the carbon monoxide standard in the Washington, DC-MD-VA attainment area through March 16, 2016.

The proposal was prepared by the Metropolitan Washington Air Quality Committee (MWAQC), which consists of elected officials from the affected localities and representatives of state transportation and air quality planning agencies. On December 17, 2003, MWAQC approved the proposal for release for public review and comment. Comments are invited on the entire proposal, the proposed control measures and the proposed contingency measures.

The proposal is available online at http://www.mwcog.org/environment/air/

Ad # 73832 Name MD. DEPT ENVIRONMENT, AIR & RA Size 286 lines M0047
Class 820' PO # NOTICE Authorized by R. CARROLL Account 6081123

PROOF OF PUBLICATION
The Washington Post

District of Columbia, ss., Personally appeared before me, a Notary Public in and for the said District, Donna M. Banks well known to me to be Billing & Verification Assistant Manager of The Washington Post, a daily newspaper published in the City of Washington, District of Columbia, and making oath in due form of law that an advertisement containing the language annexed hereto was published in said newspaper on the dates mentioned in the certificate herein.

I Hereby Certify that the attached advertisement was published in The Washington Post, a daily newspaper, upon the following date at a cost of $1,018.16, and was circulated in the Washington metropolitan area.

Published 1 time. Date: Dec 18, 2003
Account 6081123

Donna Banks

Witness my hand and official seal this 2ND day of JANUARY 20 04

Garland L. Christmas

My commission expires GARLAND L. CHRISTMAS, JR. NOTARY PUBLIC DISTRICT OF COLUMBIA MY COMMISSION EXPIRES 06/30/2005

MARYLAND DEPARTMENT OF THE ENVIRONMENT
NOTICE OF PUBLIC HEARING ON AIR QUALITY PLAN
The Maryland Department of the Environment will hold a public hearing on a proposed revision to the Maryland State Implementation Plan (SIP) for the Maryland portion of the Washington, DC-MD-VA ozone nonattainment area and a proposed revision to the Maintenance Plan for carbon monoxide for the Washington, DC-MD-VA carbon monoxide attainment area. The Hearings will be held on:
January 22, 2003 at 6:00 PM at the High Point High School, Media Center, 3601 Powder Mill Road, Beltsville, Maryland 20705.
The Public Hearings will be held as required by federal law (Clean Air Act at 42 U.S.C. 7410 (a) and 40 CFR 51.102).
Public Hearing Notice
I. Revised State Implementation Plan (SIP) for Ozone
The proposed plan, ""State Implementation Plan (SIP) Demonstrating Rate of Progress for 2002 and 2005, Revision of 1990 Baseline Emissions, and Severe Area Attainment for the Washington, DC-MD-VA Nonattainment Area,"" consists of two Rate of Progress demonstrations for the period 1999-2002 and 2002-2005, a revised baseline emissions inventory for 1990, and an attainment demonstration for 2005. In addition, the plan includes commitments by the state to meet Clean Air Act requirements for severe nonattainment areas and to meet additional EPA requirements for the Washington region including a contingency plan for 1999 rate of progress, contingency plans for the 2002 and 2005 rates of progress, an analysis of Reasonably Available Control Measures, and Transportation Control Measures.
This State Implementation Plan revises the State Implementation Plan submitted in August 2003. The plan submitted in August did not include contingency measures, as they were not necessary to a determination of adequacy for the mobile budget. The revised plan includes contingency plans for 2002 and 2005. In addition, the mobile emissions inventories as well as stationary, area and non-road emissions inventories, have been revised using the latest population forecasts approved for the Metropolitan Washington region for 2005, Cooperative Forecast Round 6.3. The controlled

inventories have been revised to reflect the use of a package of voluntary measures in the attainment strategy and additional technical corrections have been made to some inventory categories.
The Severe Area Attainment Plan is intended to show the progress being made to improve air quality in the Washington nonattainment area and the efforts underway to assure that all necessary steps are taken to reach the federal health standard for ground-level ozone by 2005. The plan has been prepared by the Metropolitan Washington Air Quality Committee (MWAQC) to comply with the Clean Air Act Amendments of 1990 and with EPA requirements for the Washington region as stated in EPA's reclassification notice of the Washington region (January 2003) and in EPA's conditional approval of the Metropolitan Washington region's State Implementation Plan (April 2003).
The proposed plan was prepared by the Metropolitan Washington Air Quality Committee (MWAQC), which consists of elected officials from the affected localities and representatives of state transportation and air quality planning agencies.
On December 17, 2003, MWAQC approved the proposed plan for release for public review and comment. Comments are invited on the entire plan, the proposed control measures and the proposed contingency measures.
The proposed air quality plan is available online at http://www.mwcog.org/environment/air/
II. Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the Washington DC-MD-VA Nonattainment Area

The Revised Carbon Monoxide Maintenance Plan demonstrates that the Washington DC-MD-VA area continues to attain the 8-hour carbon monoxide standard. The Metropolitan Washington DC-MD-VA region attained the federal carbon monoxide standard in the 1990's. In accordance with the Clean Air Act Amendments of 1990 (CAAA), Section 175A(a); the states submitted a carbon monoxide maintenance plan for the Washington region covering the period 1996-2007. EPA approved this maintenance plan effective March 16, 1996. CAAA Section 175A(b), requires the region to submit a second maintenance plan within eight years of its redesignation as an attainment area. The revised maintenance plan must provide for maintenance of the carbon monoxide standard for 20 years after attainment. This maintenance plan is submitted in fulfillment of the Section 175A(b) requirement, and provides for attainment of the carbon monoxide standard in the Washington, DC-MD-VA attainment area through March 16, 2016.
The proposed plan was prepared by the Metropolitan Washington Air Quality Committee (MWAQC), which consists of elected officials from the affected localities and representatives of state transportation and air quality planning agencies. On December 17, 2003, MWAQC approved the proposed plan for release for public review and comment. Comments are invited on the entire plan, the proposed control measures and the proposed contingency measures.
The proposed air quality plan is available online at http://www.mwcog.org/environment/air/
An electronic copy of the proposed revision will also be available on the Maryland Department of the Environment's website at http://www.mde.state.md.us/Programs/AirPrograms/air_planning/index.asp starting on Dec 22, 2003. Note: the public library systems in Maryland can be used for Internet access to view the document.
Copies of the document can be viewed at the following locations:
1. Maryland Department of the Environment Office, Air and Radiation Management Administration, 1800 Washington Boulevard, Suite 730, Baltimore, Maryland - Contact: Randall Carroll or Douglas Austin.

2. Metropolitan Washington Council of Governments, Suite 300, 777 North Capitol Street, NE, Washington, DC 20002

3. For computer viewing Public Libraries located within Maryland have full Internet access capability. The librarian or reference personnel would be available to assist you should you experience any difficulty accessing this site.

Written comments may be presented at the Hearing or mailed to Randall Carroll, MDE ARMA, 1800 Washington Boulevard, Baltimore, MD, 21230 to be

received before close of business January 22, 2004.
A hearing impaired person may request that an interpreter be present at the hearing by notifying MDE five (5) business days before the hearing. TTY via Maryland Relay for the hearing impaired is (410) 537-4396.
For more information contact Joan Rohlfs, Metropolitan Council of Governments at (202) 962-3200 or Randall Carroll, Air Quality Planner, at (410) 537-3252 (Toll free in Maryland call (800) 633-6101 ext. 3252) or RCarroll@mde.state.md.us.
Maryland Department of the Environment
Air and Radiation Management Administration
1800 Washington Boulevard, STE 730
Baltimore, Maryland 21230

No comments were received on this plan during the public comment period.