Region 3 Plan Summary
Metropolitan Washington, DC Ozone Nonattainment Area

Title: 15 % Rate of Progress (ROP) Plan for the Maryland Portion of the Metropolitan Washington, DC ozone nonattainment area

Federal Register Dates: September 23, 1997, 62 FR 49611 (final rule- conditional approval); July 19, 2000, 65 FR 44710 (proposed rule-full approval), 65 FR 44686 (final rule- full approval)

EPA Effective date: September 18, 2000

State Submittal Dates: July 12, 1995; revisions submitted on May 5, 1998

Affected Areas: Calvert, Charles, Frederick, Montgomery, and Prince George's Counties

Summary of the Plan: Air quality planning for the Washington, D.C. ozone nonattainment area is done jointly by the District of Columbia, Maryland, Virginia and the Metropolitan Washington Air Quality Committee (MWAQC). The MWAQC is composed of state and local elected officials, state air quality and transportation planning directors and the chair of the National Capital Region Transportation Planning Board.

The nonattainment area-wide plan calculates a nonattainment area-wide target level of emissions. The nonattainment area-wide plan projects emissions growth from 1990 to 1996 for the entire nonattainment area. Under the MWAQC planning process, a common suite of control measures is adopted that will ensure that the nonattainment area-wide target level of emissions is achieved. The nonattainment area-wide plan thus effectively apportions among the three jurisdictions the amount of creditable emission reductions that each jurisdiction must achieve in order for the entire nonattainment area to achieve a 15% reduction in VOC net of growth. Each State adopts as a SIP revision the MWAQC-approved plan including identification of the amount of creditable emission reductions that the State must achieve for the nonattainment area-wide plan to get 15% accounting for any growth in VOC emission from 1990 to 1996.

The May 5, 1998 15% ROP plan SIP submittal has revised all portions of the prior submittals and by itself constitutes a comprehensive 15% ROP plan SIP. The May 5, 1998 submittal was prepared by MWAQC to enable the District of Columbia, Maryland and Virginia to fulfill the conditions to the approval of their 15% ROP plans.

Transportation Conformity Budgets:

Under EPA's transportation conformity rule the 15% ROP plan is a control strategy SIP. This plan establishes a budget of 133.7 tons per day of VOC emissions for on-road mobile sources throughout

the entire Metropolitan Washington, D.C. ozone nonattainment area and does not establish a budget for nitrogen oxides (NOx) emissions.

Table 1: Washington, D.C. Area
1990 Rate-of-Progress Base Year Inventory

Source Category	District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals
Point	1.0	5.3	8.1	14.4
On-road Mobile	33.8	110.1	108.6	252.5
Off-road Mobile	5.5	32.1	32.8	70.4
Area	20.0	94.2	77.0	191.2
Totals	**60.3**	**241.7**	**226.5**	**528.5**

Table 2 Washington, D.C. Area
1990 Adjusted Base Year Inventory adjusted to 1996

Source Category	District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals
Point	1.0	5.3	8.1	14.4
On-road Mobile	24.7	83.5	78.9	187.1
Off-road Mobile	5.5	32.1	32.8	70.4
Area	20.0	94.2	77.0	191.2
Totals	**51.2**	**215.1**	**196.8**	**463.1**

Table IIB Washington, D.C. Area
1990 Adjusted Base Year Inventory adjusted to 1999

Source Category	District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals
Point	1.0	5.3	8.1	14.4
On-road Mobile	23.4	79.3	75.4	178.1
Off-road Mobile	5.5	32.1	32.8	70.4
Area	20.0	94.2	77.0	191.2
Totals	**49.9**	**210.9**	**193.3**	**454.1**

Table 3: Washington, D.C. Area Target Level Calculation

		District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals
1	1990 Adjusted Base Year Emissions Inventory Adjusted to 1996 (From Table IIA)	51.2	215.1	196.8	463.1
2	1990 Adjusted Base Year Emissions Inventory Adjusted to 1999	49.9	210.9	193.3	454.1
3	Fleet Turnover Correction (FTC) 1996 to 1999 (line 1 minus line 2)	1.3	4.2	3.5	9.0
5	1990 Adjusted Emissions Base Year Inventory Adjusted to 1996 (from Line 2)	51.2	215.1	196.8	463.1
6	Base 15% Reduction: Target Level = 85% of Adjusted Emissions inventory (0.85 C Line 4)	43.5	182.8	167.3	393.6
7	Target Level Corrected for 1996 to 1999 FTC (Line 6 minus line 3)	42.2	178.6	163.8	384.6

Table 4: Washington, D.C. Area
Growth in Emissions 1990 to 1996

Projected 1996 Inventory - Current Control Strategy

	Source Category	District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals
	Point	1.0	5.7	9.1	15.8
	On-road Mobile	23.8	92.7	86.4	202.9
	Off-road Mobile	5.2	34.4	37.7	77.3
	Area	18.5	101.9	86.2	206.6
A	Totals	48.5	234.7	219.4	502.6

B	1990 Adjusted Base year Inventory Adjusted to 1996	51.2	215.3	196.8	463.3
C	Projected Growth 1990 to 1996 (Line A -Line B)	-2.7	19.4	22.6	39.3

Table 5: Washington, D.C. Area Apportionment of Reduction Needs

Nnonattainment area-wide Sum of Creditable Emission Reduction Needs

1	Projected Uncontrolled 1996 Emissions	502.6
2	1996 Target Adjusted for 1996 to 1999 FTC (Line 7 Table III.)	384.6
3	Total Creditable Emission Reduction Needs (Line 1 minus Line 2)	118.0

Creditable Emission Reduction Needs Apportioned by Jurisdiction

		District of Columbia	Maryland	Virginia	Washington, D.C. Area Totals (TPD)
4	Allocation of Creditable Emission Reductions to each State *	8.5	57.5	51.7	117.7

* Part of the small discrepancy between this value of 117.7 contained in the plan and that of line 3 of this Table V is due to rounding the apportioned emission reductions to the nearest tenth. The actual values are determined by multiplying each State's reductions-in-progress from Table 6-1 of the plan by the ratio of the regional emission reduction needs (117.8) and the regional total reductions-in-progress (126.8). See Chapter 7.0 of the plan. For example, for the District's emission reduction needs were determined as 9.2 × 117.8/126.8 = 8.547. Similarly, for Maryland and Virginia the values are 57.506 and 51.747. These total 117.8. The remainder of the difference is due to rounding in the Base 15% Reduction Target Level (Line 6, Table III) and in the Plan's rounding of projected inventories.

Basing the emission reduction needs upon an area-wide reduction requirement of 118 tons per day would yield for the District: 9.2 × 118.0/126.8 = 8.562 = 8.6 (rounded). For Maryland and Virginia, the values are 57.604 and 51.834, respectively.

Table 1: Creditable Reductions in the Maryland's 15% Plan for the Washington, DC Area (Tons VOC per day)

Control Measures	Reductions	Implementation Status
Enhanced Inspection and Maintenance	19.0	SIP Approved 64 FR 58340, October 29, 1999.
Tier 1 FMVCP	6.3	Federal Rule, 40 CFR Part 86.
Stage II Recovery Nozzles	7.9	SIP Approved 59 FR 29730, June 9, 1994
Reformulated Gasoline		Approved opt-in, 40 CFR 80 subpart D
On-Road	4.1	
Off-Road	1.0	
Refueling Benefits ("Phase II Gasoline Volatility Controls")	0.1	
Auto Refinishing	3.8	SIP Approved 62 FR 41853, August 4, 1997
AIM – Reformulated Surface Coating	7.6	Federal Rule, 40 CFR 59 subpart D
Reformulated Consumer/Commercial Products	2.1	Federal Rule, 40 CFR 59 subpart C
Stage I Enhancement	0.9	SIP Approved 60 FR 2018, January 6, 1995
Surface Cleaning and Degreasing	2.6	SIP Approved 62 FR 41853, August 4, 1997
Graphic Arts	1.0	SIP Approved 62 FR 46199, September 2, 1997
Seasonal Open Burning Ban	3.7	SIP Approved 62 FR 8380, January 31, 1997
Total Fully Creditable Reductions	**60.1**	

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