

Appendix H

Severe Area Plan Commitments

Date for Achieving 1999-2002 Rate-of-Progress



COMMONWEALTH

Post-it® Fax Note	7671	Date	4/9/03	# of pages	3
To	Joan Roberts	From	Jim Pontreille		
Co./Dept.	MWCOG	Co.	VA DEQ		
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DEPARTMENT OF ENVIRONMENTAL QUALITY
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W. Taylor Murphy, Jr.
 Secretary of Natural Resources

Robert G. Burnley
 Director

(804) 698-4000
 1-800-592-5482

April 8, 2003

Donald S. Welsh, Regional Administrator
 U.S. Environmental Protection Agency
 Region III
 1650 Arch Street
 Philadelphia, Pennsylvania 19103

Dear Mr. Welsh:

On July 2, 2002, the Court of Appeals for the District of Columbia Circuit vacated the United States Environmental Protection Agency's (EPA) approval of the attainment demonstration and 1999 rate-of-progress State Implementation Plans (SIPs) we had submitted for the Washington Metropolitan Area (D.C. Area), and remanded these SIPs to EPA for further action. We also understand that on December 18, 2002, the United States District Court for the District of Columbia ordered EPA to publish proposed rules to approve or disapprove the attainment demonstration and 1999 rate-of-progress SIPs by February 3, 2003, and to publish final rules taking action on these SIPs by April 17, 2003.

Because the D.C. Circuit found that both the attainment demonstration and rate-of-progress SIPs lacked specific contingency measures, as required by the federal Clean Air Act (Act), to be undertaken if the Metropolitan Washington D.C. Area (D.C. Area) failed to make reasonable further progress, or to attain the national primary ambient air quality standard (NAAQS) by the attainment date, we understand that EPA cannot approve either SIP in its current form. Also, with respect to the attainment demonstration, the Court determined that the SIP lacked an appropriate analysis of reasonably available control measures (RACM), as required by the Act.

Therefore, by letter dated January 14, 2003, we made commitments to submit, no later than April 17, 2004, certain revisions to these plans necessary to secure their approval. On February 3, 2003, EPA published a rulemaking notice (68 FR 5246) proposing conditional approval of these plans contingent upon our fulfilling the commitments made in our January 14,

2003, letter no later than April 17, 2004. We understand that there are additional requirements of severe ozone nonattainment areas which are due to EPA by March 1, 2004, as provided in your final rule published on January 24, 2003, (68 FR 3424) which changed the ozone nonattainment area classification for the D.C. Area from serious to severe.

The purpose of this letter is two-fold. First, it is to reaffirm and expand upon the commitments made in our letter of January 14, 2003, and to reaffirm that we shall fulfill those commitments by no later than April 17, 2004. Secondly, this letter is to further commit to fulfill the additional requirements of severe ozone nonattainment areas by no later than April 17, 2004, for purposes of satisfying conditional approval of these plans.

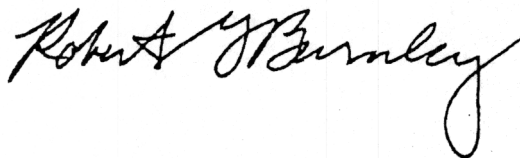
Our commitments are as follows:

- 1) We commit to submit to EPA, not later than April 17, 2004, a contingency plan containing those adopted measures that qualify as contingency measures due to the failure of the D.C. Area to attain the one-hour ozone standard for serious areas by November 15, 1999, and also those adopted measures that qualify as contingency measures to be implemented if EPA notifies the states that the D.C. Area did not achieve the required 9% rate of progress (ROP) reductions by November 15, 1999, and those adopted contingency measures to be implemented if the D.C. Area does not achieve the 9% ROP reductions required for the post-1999 period.
- 2) We also commit to submit to EPA, not later than April 17, 2004, adopted contingency measures to be implemented if the D.C. Area does not attain the one-hour ozone NAAQS by November 15, 2005. Additionally, by April 17, 2004, we commit to submitting to EPA an appropriate RACM analysis for the D.C. Area, along with any revisions to the attainment demonstration SIP necessitated by such analysis, including adopted measures to demonstrate timely attainment and meet RACM requirements, should there be any.
- 3) We also commit to revise, and submit to EPA, not later than April 17, 2004, an updated attainment demonstration SIP that reflects revised MOBILE6-based motor vehicle emissions budgets, including revisions to the attainment modeling and/or weight of evidence demonstration as well as adopted measures as necessary, to demonstrate that the SIP continues to demonstrate attainment by November 15, 2005.
- 4) We also commit to submit to EPA, not later than April 17, 2004, a post-1999 ROP plan, including MOBILE6-based mobile source emission budgets, with adopted measures sufficient to achieve emission reductions of ozone precursors of at least 3 percent per year from November 15, 1999, until the attainment date.
- 5) We also commit to submit to EPA, not later than April 17, 2004, revisions to our SIP regulations to redefine the size threshold for major stationary sources of nitrogen oxides (NOx) to those with the potential to emit 25 tpy or more. This submittal will include a formal declaration that once EPA changed the ozone nonattainment area classification for the D.C. Area to severe, the major source threshold of 25 tpy applies to major stationary sources of volatile organic compounds (VOCs) under currently approved SIP regulations.

- 6) We also commit to submit to EPA, not later than April 17, 2004, additional reasonably available control technology (RACT) rules for sources subject to the new lower major source applicability size threshold, or a formal negative declaration that no such sources exist, and/or a formal declaration that any such sources are already subject to RACT under current SIP-approved regulations.
- 7) We also commit to submit to EPA, not later than April 17, 2004, revisions to our new source review (NSR) regulations to apply the 1.3 to 1 offset requirement to major stationary sources of VOCs and NOx.
- 8) We also commit to submit to EPA, not later than April 17, 2004, a revision that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips and to attain reductions in motor vehicle emissions as necessary, in combination with other emission reduction requirements in the D.C. Area, to comply with the ROP requirements for severe areas. We shall consider measures specified in section 108(f) of the Clean Air Act, and choose from among and implement such measures as necessary to demonstrate attainment.
- 9) We also commit to submit to EPA, not later than April 17, 2004, a regulation to meet the fee requirement of section 185 of the CAA for major stationary sources of VOCs and NOx. This regulation would be implemented should the D.C. Area fail to attain the one-hour ozone NAAQS by November 15, 2005.

If you have any questions or need additional information, please let us know.

Sincerely,



Robert G. Burnley

RGB/JES/RAM

c: Judith Katz, EPA, Region III

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101

Robert L. Ehrlich, Jr.
GovernorMichael S. Steele
Lt. Governor

APR 7 2003

Lynn Y. Buhl
Acting SecretaryKendal P. Philbrick
Deputy SecretaryDonald S. Welsh, Regional Administrator
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia PA 19103

Dear Mr. Welsh.

On July 2, 2002, the Court of Appeals for the District of Columbia Circuit vacated the United States Environmental Protection Agency's (EPA) approval of the attainment demonstration and 1999 rate-of-progress State Implementation Plans (SIPs) we had submitted for the Washington Metropolitan Area (D.C. Area), and remanded these SIPs to EPA for further action. We also understand that on December 18, 2002, the United States District Court for the District of Columbia ordered EPA to publish proposed rules to approve or disapprove the attainment demonstration and 1999 rate-of-progress SIPs by February 3, 2003, and to publish final rules taking action on these SIPs by April 17, 2003.

Because the D.C. Circuit found that both the attainment demonstration and rate-of-progress SIPs lacked specific contingency measures, as required by the federal Clean Air Act (Act), to be undertaken if the Metropolitan Washington D.C. Area (D.C. Area) failed to make reasonable further progress, or to attain the national primary ambient air quality standard (NAAQS) by the attainment date, we understand that EPA cannot approve either SIP in its current form. Also, with respect to the attainment demonstration, the Court determined that the SIP lacked an appropriate analysis of reasonably available control measures (RACM), as required by the Act.

Therefore, on January 14, 2003 we sent a letter to you in which we made commitments to submit, by no later than April 17, 2004, certain revisions to these plans necessary to secure their approval. On February 3, 2003, EPA published a rulemaking notice (68 FR 5246) proposing conditional approval of these plans contingent upon our fulfilling the commitments made in our January 14, 2003 letter by no later than April 17, 2004. We understand that there are additional requirements of severe ozone nonattainment areas, which are due to EPA by March 1, 2004 as provided in your final rule reclassifying the D.C. area from serious to severe nonattainment published on January 24, 2003 (68 FR 3424).

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Via Maryland Relay Service

The purpose of this letter is two-fold. First, it is to reaffirm and expand upon the commitments made in our letter of January 14, 2003 and to reaffirm that we shall fulfill those commitments by no later than April 17, 2004. Secondly, this letter is to further commit to fulfill the additional requirements of severe ozone nonattainment areas by no later than April 17, 2004 for purposes of satisfying conditional approval of these plans.

Our commitments are as follows

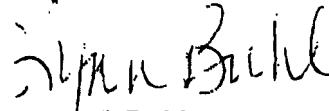
- 1) We commit to submit to EPA, not later than April 17, 2004, a contingency plan containing those adopted measures that qualify as contingency measures due to the failure of the D.C. Area to attain the one-hour ozone standard for serious areas by November 15, 1999 and also those adopted measures that qualify as contingency measures to be implemented if EPA notifies the states that the D.C. Area did not achieve the required 9% rate of progress (ROP) reductions by November 15, 1999 and those adopted contingency measures to be implemented if the area does not achieve the 9% ROP reductions required for the post-1999 period.
- 2) We also commit to submit to EPA, not later than April 17, 2004, adopted contingency measures to be implemented if the D.C. area does not attain the one-hour ozone NAAQS by November 15, 2005. Additionally, by April 17, 2004, we commit to submitting to EPA an appropriate RACM analysis for the D.C. Area, along with any revisions to the attainment demonstration SIP necessitated by such analysis, including adopted measures to demonstrate timely attainment and to meet RACM requirements, should there be any.
- 3) We also commit to revise, and submit to EPA, not later than April 17, 2004, an updated attainment demonstration SIP that reflects revised MOBILE6-based motor vehicle emissions budgets, including revisions to the attainment modeling and/or weight of evidence demonstration as well as adopted measures as necessary, to demonstrate that the SIP continues to demonstrate attainment by November 15, 2005.
- 4) We also commit to submit to EPA, not later than April 17, 2004, a post-1999 ROP plan, including MOBILE6-based mobile source emission budgets, with adopted measures sufficient to achieve emission reductions of ozone precursors of at least 3 percent per year from November 15, 1999 until the attainment date.
- 5) We also commit to submit to EPA, not later than April 17, 2004, revisions to our SIP regulations to redefine the size threshold for major stationary sources of volatile organic compounds (VOCs) and major sources of nitrogen oxides (NOx) to those with the potential to emit 25 tpy or more or a formal declaration that once EPA reclassified the D.C. area to severe ozone nonattainment, the major source threshold of 25 tpy applies to sources of VOC and to sources of NOx under currently approved SIP regulations.
- 6) We also commit to submit to EPA, not later April 17, 2004, additional reasonably available control technology (RACT) rules for sources subject to the new lower major source applicability size threshold, or a formal negative declaration that no such sources exist, and/or a formal declaration that any such sources are already subject to RACT under current SIP-approved regulations.
- 7) We also commit to submit to EPA, not later than April 17, 2004, revisions to our new source review (NSR) regulations to require emission offsets of at least 1.3 to 1 or a formal declaration that once EPA reclassified the D.C. area to severe ozone attainment, the 1.3 to 1 NSR offset requirement applies to major sources of VOC and to sources of NOx under currently approved SIP regulations.

Mr. Donald S. Welsh
Page 3

8) We also commit to submit to EPA, not later than April 17, 2004, a revision that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips and to attain reductions in motor vehicle emissions as necessary, in combination with other emission reduction requirements in the area, to comply with the ROP requirements for severe areas. We shall consider measures specified in section 108(f) of the Clean Air Act, and choose from among and implement such measures as necessary to demonstrate attainment.

9) We also commit to submit to EPA, not later than April 17, 2004, a fee requirement that satisfies Section 185 of the CAA for major stationary sources of VOC and NOx should the area fail to attain by November 15, 2005. Implementation of the fee requirement would be contingent on the continued applicability of the Section 185 requirement to the Metropolitan Washington, D.C. nonattainment area.

Sincerely,



Lynd Y. Buhl
Acting Secretary

cc: Judith Katz

Government of the District of Columbia
Department of Health

Office of the Senior Deputy Director for
Environmental Health Science
and Regulation



April 7, 2003

Donald S. Welsh, Regional Administrator
United States Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Welsh:

On July 2, 2002, the Court of Appeals for the District of Columbia Circuit vacated the United States Environmental Protection Agency's (EPA's) approval of the attainment demonstration and 1999 rate-of-progress (ROP) State Implementation Plans (SIPs) submitted for the Washington Metropolitan Area (D.C. Area), and remanded these SIPs to EPA for further action. On December 18, 2002, the United States District Court for the District of Columbia ordered EPA to publish proposed rules to approve or disapprove the attainment demonstration and 1999 ROP SIPs by February 3, 2003, and to publish final rules taking action on these SIPs by April 17, 2003.

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The purpose of this letter is two-fold. First, it is to reaffirm and expand upon the commitments made in our letter of January 14, 2003 and to reaffirm that we shall fulfill those commitments by no later than April 17, 2004. Secondly, this letter is to further commit to fulfill the additional requirements of severe ozone nonattainment areas by no later than April 17, 2004 for purposes of satisfying conditional approval of these plans. Nothing in these letters should be construed as committing the District of Columbia to anything not required by the Act.

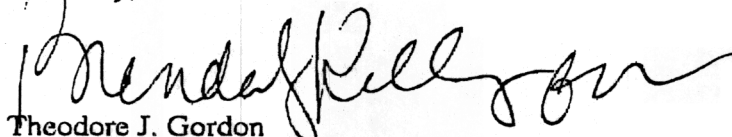
We commit to submit to EPA as SIP revisions, not later than April 17, 2004, the following:

- 1) A contingency plan containing those adopted measures that qualify as contingency measures due to the failure of the D.C. Area to attain the one-hour ozone NAAQS for serious areas by November 15, 1999 and also those adopted measures that qualify as contingency measures to be implemented if EPA notifies the states that the D.C. Area did not achieve the required 9% ROP reductions by November 15, 1999, and those adopted contingency measures to be implemented if the area does not achieve the 9% ROP reductions required for the post-1999 period;
- 2) Adopted contingency measures to be implemented if the D.C. area does not attain the one-hour ozone NAAQS by November 15, 2005 and an appropriate RACM analysis for the D.C. Area, along with any revisions to the attainment demonstration SIP necessitated by such analysis, including adopted measures to demonstrate timely attainment and meet RACM requirements, should there be any; ...
- 3) An updated attainment demonstration SIP that reflects revised MOBILE6-based motor vehicle emissions budgets, including revisions to the attainment modeling and/or weight of evidence demonstration as well as adopted measures as necessary, to demonstrate that the SIP continues to demonstrate attainment by November 15, 2005;
- 4) A post-1999 ROP plan, including MOBILE6-based mobile source emission budgets, with adopted measures sufficient to achieve emission reductions of ozone precursors of at least 3 percent per year from November 15, 1999 until the attainment date;
- 5) Revisions to our SIP regulations to redefine the size threshold for major stationary sources of volatile organic compounds (VOCs) and major sources of nitrogen oxides (NO_x) to those with the potential to emit 25 tons per year (tpy) or more or a formal declaration that once EPA reclassified the D.C. area to severe ozone nonattainment, the major source threshold of 25 tpy applies to sources of VOC and to sources of NO_x under currently approved SIP regulations;
- 6) Additional reasonably available control technology (RACT) rules for sources subject to the new lower major source applicability size threshold, or a formal negative declaration that no such sources exist, and/or a formal declaration that any such sources are already subject to RACT under current SIP-approved regulations;
- 7) Revisions to our new source review (NSR) regulations to require emission offsets of at least 1.3 to 1 or a formal declaration that once EPA reclassified the D.C. area to severe ozone attainment, the 1.3-to-1 NSR offset requirement applies to major sources of VOC and to sources of NO_x under currently approved SIP regulations;

8) A revision that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips and to attain reductions in motor vehicle emissions as necessary, in combination with other emission reduction requirements in the area, to comply with the ROP requirements for severe areas. We shall consider measures specified in section 108(f) of the Act, and choose from among and implement such measures as necessary to demonstrate attainment.

9) Requirements to implement section 185 of the Act.

Sincerely,



Theodore J. Gordon
Senior Deputy Director for
Environmental Health Science and Regulation

cc: Judith Katz, Director, Air Protection Division, EPA Region 3

MEMORANDUM

December 10, 2003

To: SIP File

From: Beth Lowe, MWCOG/DEP

Subject: Date for Demonstrating 2002 Rate-of-Progress in Washington DC-MD-VA Nonattainment Region

This memo provides an explanation of the attached spreadsheet, which documents that expectation that the Washington region will be able to demonstrate rate-of-progress for the period 1999-2002 on January 1, 2005.

The spreadsheet shows what reductions are attributable to each control measure contained in the August 2003 SIP revision and on what date the region expects to record the reductions from these measures. All reductions are reductions from the 2002 uncontrolled inventories as reported in Tables 4-3 and 4-4. The July 1, 2002 reductions are reductions for calendar year 2002 as reported in Table A. The spreadsheet freezes all reductions from control measures delivering benefits as of 2002. It then documents the date of introduction for additional control measures to remedy the difference between existing and required reductions, as shown at the bottom of the July 1, 2002 column.

Gray cells in the spreadsheet signify increased reductions due to introduction of additional control measures after 2002. Control measures contributing to achievement of the 2002 rate-of-progress include the Ozone Transport Commission (OTC) Phase II NO_x MOU and the five OTC VOC control measures. The spreadsheet demonstrates that with introduction of the final set of OTC VOC measures on January 1, 2005, the Washington region will meet the 2002 rate-of-progress requirements.

TIMELINE FOR ACHIEVING REDUCTIONS TOWARD 1999-2002 RATE OF PROGRESS DEMONSTRATION

JULY 1, 2002
-4.5 months
after November 15, 2002

MAY 1, 2003
5.5 months
after November 15, 2002

MAY 1, 2004
17.5 months
after November 15, 2002

		Reductions from Controls		Reductions from Controls		Reductions from Controls	
		VOC	NOx	VOC	NOx	VOC	NOx
POINT SOURCE MEASURES							
7.2.5	Non-CTG VOC RACT to 25 tpy	1.2	0	1.2	0	1.2	0
7.2.9	State NOx RACT and Regional NOx Transport Requirement	0	203.8	0	279.4	0	279.4
7.4.7	Expanded State Point Source Regulations to 25 tons/yr	2.4	0	2.4	0	2.4	0
AREA SOURCE MEASURES							
7.2.2	Stage II Vapor Recovery Nozzles	15.1	0	15.1	0	15.1	0
7.2.6	Phase II Gasoline Volatility Controls	2.6	0	2.6	0	2.6	0
7.3.1	Reformulated Surface Coatings	16.7	0	16.7	0	16.7	0
7.3.2	Reformulated Consumer Products	4.1	0	4.1	0	4.1	0
7.3.4	Reformulated Industrial Cleaning Solvents	0.9	0	0.9	0	0.9	0
7.3.5	Standards for Locomotive	0	2.9	0	2.9	0	2.9
7.4.3	Surface Cleaning/Degreasing for Machinery/Automotive Repair	4.1	0	4.1	0	4.1	0
7.4.4	Landfill Regulations	2.4	0	2.4	0	2.4	0
7.4.5	Seasonal Open Burning Restrictions	7.4	1.5	7.4	1.5	7.4	1.5
7.4.6	Stage I Expansion (Tank Truck Unloading)	1.5	0	1.5	0	1.5	0
7.4.8	Graphic Arts Controls	3.8	0	3.8	0	3.8	0
7.4.9	Auto body Refinishing	9.3	0	9.3	0	9.3	0
7.4.10	RESERVED	0	0	0	0	0	0
7.4.11	OTC Portable Fuel Containers	0	0	0	0	0.30	0
7.4.12	OTC Architectural and Industrial Maintenance Coatings	0	0	0	0	0	0
7.4.13	RESERVED	0	0	0	0	0	0
7.4.14	OTC Solvent Cleaning Operations	0	0	0	0	0	0
ON-ROAD MEASURES							
7.2.1	High-Tech Inspection/Maintenance						
7.4.1	Reformulated Gasoline (on-road)						
7.2.3	Federal "Tier I" Vehicle Standards and New Car Evaporative Standards	56.0	44.9	56.0	44.9	56.0	44.9
7.2.4	Tier 2 Motor Vehicle Emission Standards						
7.3.3	National Low Emission Vehicle Program						
7.3.6	Heavy-duty Diesel Engine Rule						
7.5	Transportation Control Measures	0.3	0.5	0.3	0.5	0.3	0.5
NON-ROAD MEASURES							
7.2.7	EPA Non-Road Gasoline Engines Rule	22.2	0	22.2	0	22.2	0
7.2.8	EPA Non-Road Diesel Engines Rule	0	14.9	0	14.8	0	14.8
7.2.10	Emissions standards for spark ignition marine engines	1.3	0.0	1.3	0.0	1.3	0.0
7.2.11	Emissions standards for large spark ignition engines	0	0	0	0	0	0
7.4.2	Reformulated Gasoline (off-road)	2.7	0	2.7	0	2.7	0
VOLUNTARY MEASURES							
7.6	Voluntary Measures Bundle	0	0	0	0	0.2	0.1
TOTAL REDUCTIONS		154.0	268.5	154.0	344.0	154.5	344.1
TOTAL REDUCTIONS REQUIRED FOR 2002 ROP (See Table 5-11)		178.6	253.8	178.6	253.8	178.6	253.8
DEMONSTRATE 2002 ROP IN THIS MONTH?		No	Yes	No	Yes	No	Yes

TIMELINE FOR ACHIEVING REDUCTIONS

JULY 1, 2004
19.5 months
after November 15, 2002

NOV 1, 2004
23.5 months
after November 15, 2002

JAN 1, 2005
25.5 months
after November 15, 2002

POINT SOURCE MEASURES

- 7.2.5 Non-CTG VOC RACT to 25 tpy
- 7.2.9 State NOx RACT and Regional NOx Transport Requirement
- 7.4.7 Expanded State Point Source Regulations to 25 tons/yr

Reductions from Controls

	VOC	NOx
	1.2	0
	0	279.4
	2.4	0

Reductions from Controls

	VOC	NOx
	1.2	0
	0	279.4
	2.4	0

Reductions from Controls

	VOC	NOx
	1.2	0
	0	279.4
	2.4	0

AREA SOURCE MEASURES

- 7.2.2 Stage II Vapor Recovery Nozzles
- 7.2.6 Phase II Gasoline Volatility Controls
- 7.3.1 Reformulated Surface Coatings
- 7.3.2 Reformulated Consumer Products
- 7.3.4 Reformulated Industrial Cleaning Solvents
- 7.3.5 Standards for Locomotive
- 7.4.3 Surface Cleaning/Degreasing for Machinery/Automotive Repair
- 7.4.4 Landfill Regulations
- 7.4.5 Seasonal Open Burning Restrictions
- 7.4.6 Stage I Expansion (Tank Truck Unloading)
- 7.4.8 Graphic Arts Controls
- 7.4.9 Auto body Refinishing
- 7.4.10 RESERVED
- 7.4.11 OTC Portable Fuel Containers
- 7.4.12 OTC Architectural and Industrial Maintenance Coatings
- 7.4.13 RESERVED
- 7.4.14 OTC Solvent Cleaning Operations

	VOC	NOx
	15.1	0
	2.6	0
	16.7	0
	4.1	0
	0.9	0
	0	2.9
	4.1	0
	2.4	0
	7.4	1.5
	1.5	0
	3.8	0
	9.3	0
	0	0
	0.46	0
	0	0
	0	0
	0	0

	VOC	NOx
	15.1	0
	2.6	0
	16.7	0
	4.1	0
	0.9	0
	0	2.9
	4.1	0
	2.4	0
	7.4	1.5
	1.5	0
	3.8	0
	9.3	0
	0	0
	0.76	0
	0	0
	0	0
	0	0
	0	0

	VOC	NOx
	15.1	0
	2.6	0
	16.7	0
	4.1	0
	0.9	0
	0	2.9
	4.1	0
	2.4	0
	7.4	1.5
	1.5	0
	3.8	0
	9.3	0
	0.0	0
	0.91	0
	12.3	0
	0	0
	9.0	0

ON-ROAD MEASURES

- 7.2.1 High-Tech Inspection/Maintenance
- 7.4.1 Reformulated Gasoline (on-road)
- 7.2.3 Federal "Tier I" Vehicle Standards and New Car Evaporative Standards
- 7.2.4 Tier 2 Motor Vehicle Emission Standards
- 7.3.3 National Low Emission Vehicle Program
- 7.3.6 Heavy-duty Diesel Engine Rule
- 7.5 Transportation Control Measures

	VOC	NOx
	56.0	44.9
	0.3	0.5

	VOC	NOx
	56.0	44.9
	0.3	0.5

	VOC	NOx
	56.0	44.9
	0.3	0.5

NON-ROAD MEASURES

- 7.2.7 EPA Non-Road Gasoline Engines Rule
- 7.2.8 EPA Non-Road Diesel Engines Rule
- 7.2.10 Emissions standards for spark ignition marine engines
- 7.2.11 Emissions standards for large spark ignition engines
- 7.4.2 Reformulated Gasoline (off-road)

	VOC	NOx
	22.2	0
	0	14.8
	1.3	0.0
	0	0
	2.7	0

	VOC	NOx
	22.2	0
	0	14.8
	1.3	0.0
	0	0
	2.7	0

	VOC	NOx
	22.2	0
	0	14.8
	1.3	0.0
	0	0
	2.7	0

VOLUNTARY MEASURES

- 7.6 Voluntary Measures Bundle

	VOC	NOx
	0.2	0.1

	VOC	NOx
	0.2	0.1

	VOC	NOx
	3.2	0.2

TOTAL REDUCTIONS

TOTAL REDUCTIONS REQUIRED FOR 2002 ROP (See Table 5-11)

DEMONSTRATE 2002 ROP IN THIS MONTH?

	VOC	NOx
	154.6	344.1
	178.6	253.8
	No	Yes

	VOC	NOx
	154.9	344.1
	178.6	253.8
	No	Yes

	VOC	NOx
	179.4	344.2
	178.6	253.8
	Yes	Yes

Appendix I

Emissions Reductions from Phase II RFG Controls

Phase 2 RFG Benefit Calculation Methodology

Reformulated Gasoline (RFG) program has been in place in Washington, DC-MD-VA ozone nonattainment area since January 1, 1995. Phase 2 of this RFG program started on January 1, 2000.

To calculate the benefits of Phase 2 RFG program for mobile sources, which has been identified as a contingency measure for the 1999 Rate-of-Progress demonstration, following methodology was adopted.

Methodology

Mobile 6.2 model was run for two scenarios mentioned below:

Case 1: Enhanced I/M; Clean Air Act controls; National Low-Emission Vehicle Standards (NLEV); and Phase 1 Reformulated Gasoline (RFG).

(Calculation of benefits of Phase 1 RFG program in the year 2000)

Case 2: Enhanced I/M; Clean Air Act controls; National Low-Emission Vehicle Standards (NLEV); and Phase 1&2 (combined) Reformulated Gasoline (RFG).

(Calculation of benefits of Phase 1&2 (combined) RFG programs in the year 2000)

Emissions reductions or benefits associated with Phase 2 RFG program in the year 2000 was calculated by subtracting “Case 1” motor vehicle emissions from that of “Case 2”.

Memo

To: Joan Rohlfs
From: Eulalie G. Lucas
CC: Mike Clifford, Beth Lowe, Sunil Kumar
Date: 2/10/2004
Re: 2000 Emissions Estimates for Phase 2 Reformulated Gasoline (RFG) benefit.

This memo transmits emissions estimates associated with the calculation of benefits derived from Phase 2 Reformulated Gasoline. These emissions were calculated in response to comments received during the recent public hearing of the region's 2005 Severe SIP. DTP staff was requested to calculate emissions for the year 2000 to show benefits of Phase II RFG. The travel inputs to these calculations are consistent with those used in the SIP and details of the methodology used in the preparation of Mobile6 emissions rates are contained in the SIP documentation, Appendix I entitled, Emissions Reduction from Phase II RFG Controls. The emissions factor inputs to these calculations were provided by COG/DEP staff, (attached e-mails) and represent a Phase I RFG (case 1) and a Phase II RFG (case 2) condition, with all other inputs the same (i.e., Tier 1, enhanced I/M and NLEV).

The attached table shows these emissions for Case 1, Case 2 and the resulting benefits (difference) by trip cycle for the non-attainment area. The table shows VOC benefits of 19.1 tons per day and NO_x of 8.5 tons per day.

Attachments

**SEVERE AREA SIP
2000 Summary Table
Mobile Emissions Inventories
(Tons/Day)**

	Case 1		Case 2		DIFF Case 2 - Case 1	
	VOC	NOx	VOC	NOx	VOC	NOx
I Network						
Start	29.317	15.569	29.378	14.916	0.061	-0.653
Running	80.443	274.858	67.749	267.662	-12.694	-7.196
Soak	12.981		10.866		-2.115	
II Off-Network						
Diurnal	4.557		3.221		-1.336	0.000
Resting Loss	12.734		12.734		0.000	0.000
Local Roads	12.930	11.731	10.124	11.199	-2.806	-0.532
School Buses	0.457	6.286	0.457	6.286	0.000	0.000
Transit Buses	0.483	6.857	0.483	6.857	0.000	0.000
Auto Access	1.602	1.738	1.439	1.646	-0.162	-0.092
Total	155.503	317.039	136.452	308.566	-19.052	-8.473

Case 1
Case 2

Tier 1, Enhanced I/M, NLEV and Phase 1 RFG
Tier 1, Enhanced I/M, NLEV and Total RFG