

**Region 3 Plan Summary**  
**Pennsylvania Portion of the Philadelphia-Wilmington -Trenton Ozone Nonattainment Area**

**Title:** 15 % Rate of Progress (ROP) Plan for the Pennsylvania portion of the Philadelphia-Wilmington -Trenton Ozone Nonattainment Area

**Federal Register Dates:** June 9, 1997, 62 FR 31343 (final rule-conditional approval); May 16, 2001, 66 FR 27051 (proposed rule- full approval); August 24, 2001, 66 FR 44547 (final rule-full approval).

**EPA Effective date:** September 24, 2001

**State Submittal Date:** September 12, 1996; revisions submitted on April 10, 1997 and June 5, 1998.

**Affected Areas:** Bucks, Chester, Delaware, Montgomery and Philadelphia Counties

**Summary of the Plan:** The Pennsylvania 15% RPP for the Philadelphia-Wilmington-Trenton ozone nonattainment area is summarized in five parts. Part I summarizes the 1990 base year inventory. Part II summarizes the calculations of the 1996 target level of VOC emissions.

Part III summarizes the projected controlled 1996 point, area, and mobile source emissions.

Part IV presents the individual control measures to be implemented by 1996 with their associated VOC emission reductions. Part V summarizes the overall rate-of-progress calculations through 1996 for the Pennsylvania portion of the Philadelphia-Wilmington-Trenton ozone nonattainment area.

**Part I- 1990 Base Year Emissions Inventory:**

Provided below is a tabular summary of the emission inventories calculated as described above.

<b>SIP Approved 1990 Emissions Inventory (in tons/day)</b> <b>Pennsylvania portion of the Philadelphia Ozone Nonattainment Area</b>				
County	<u>Point</u>	<u>Area</u>	<u>Non-road</u>	<u>Highway</u>
<b>Bucks</b>	22.00	28.53	15.18	35.65
<b>Chester</b>	16.48	19.56	13.98	22.57
<b>Delaware</b>	68.60	27.18	10.13	23.16
<b>Montgomery</b>	7.78	50.51	19.81	42.31
<b>Philadelphia</b>	37.89	68.58	21.47	64.21

SIP Approved 1990 Emissions Inventory (in tons/day) Pennsylvania portion of the Philadelphia Ozone Nonattainment Area				
<b>TOTAL</b>	<b>152.75</b>	<b>194.35</b>	<b>80.57</b>	<b>187.89</b>
<b>Area-wide total = 615.6 tpd</b>				

The adjusted base year inventory is multiplied by 0.15 to calculate the amount of the required rate of progress emission reduction.

**Part II- Calculation of the 1996 15% Plan Target Level for the Pennsylvania Portion of the Philadelphia Ozone Nonattainment Area**

Steps	Calculation Method	Tons per Day (tpd)
Calculate the 1990 base (relative to 1996)	[1996 MOBILE factor (w/ CAA off) x 1990 VMT] + non-mobile 1990 inventory	582.53
Calculate the 1996 base (relative to 1999)	[1999 MOBILE factor (w/ CAA off) x 1990 VMT] + non-mobile 1990 inventory	576.11
Calculate non-creditable fleet turnover between 1996 and 1999	1990 base (relative to 1996) - 1990 base (relative to 1999)	6.42 <sup>1</sup>
Calculate the 1996 target level	1990 adjusted base (for 1996) x 0.85	494.31
Correct the 1996 target level	1996 target level - non-creditable fleet turnover between 1996-99	487.89 <sup>2</sup>

---

<sup>1</sup> Pennsylvania's June 9, 1998 SIP revision lists this non-creditable fleet turnover between 1996 and 1999 as 7.42 tpd, but EPA believes this is simply a typographical or calculation error on the part of the Commonwealth, since the SIP estimates for the 1990 base (relative to 1996 and 1999) agree with those listed in this TSD table.

<sup>2</sup> Pennsylvania's June 9, 1998 SIP revision lists this corrected target level as 486.89 tpd, however this is due to the typographical error in the SIP for non-creditable fleet turnover between 1996-1999 (i.e., SIP lists 7.42 tpd instead of the correct estimate, 6.42 tpd).

Steps	Calculation Method	Tons per Day (tpd)
Calculate the remodeled 1996 controlled emissions	remodeled highway emissions + remainder of existing 1996 projected inventory (i.e., point, area, non-road) [84.58 + 151.15 + 153.98 + 81.33]	476.53

### Part III- 1996 Projected Controlled Emissions (in Tons Per Day) Philadelphia 15% Plan

The below-listed table carries these revised estimates forward to project 1996 controlled emissions .

Emissions Type	15% Plan SIP Revision
Highway emissions	84.58
Point Source emissions	157.65 <sup>1</sup>
Area Source emissions	153.98
Non-Road Mobile emissions	81.33
<b>Total 1996 controlled emissions</b>	<b>477.54 TPD</b>

---

<sup>1</sup> In its June 5, 1998 SIP, Pennsylvania lists 1996 projected controlled point source emissions of 151.15 tpd, with total controlled emissions listed as 476.53 tpd. However, EPA believes these figures are in error. EPA's June 9, 1997 conditional approval (62 FR 31343) of the 15% plan approved credit for only one point source measure - source shutdowns. The approved reduction was 1.83 tpd.

If Pennsylvania's June 1998 SIP controlled point source total of 151.15 tpd estimate is correct, total 1996 controlled emissions should be 471.04 tpd (i.e., the sum of all inventory sectors, or 84.58 + 151.15 + 153.98 + 81.33); and not, as Pennsylvania claims in the same plan, 476.53. Only in the event that area, or non-road mobile source levels changed since EPA conditionally approved the 15% plan could Pennsylvania's latest point source estimate be correct.

**Part IV Summary of Individual Control Measures Comprising Pennsylvania's Revised 15% Plan for the Philadelphia portion of Pennsylvania**

<b>Control Measure</b>	<b>Approved by EPA</b>	<b>VOC Reduction (TPD)</b>	<b>Creditable For 15% Plan</b>
Reformulated Gasoline	Federal rule	21.19	Yes
Enhanced I/M Program	SIP approved [June 17, 1999 (64 FR 32411)]	56.91	Yes
Tier 1 Motor Vehicle Standards / post-1990 FMVCP	Federal rule	6.59	Yes
Reformulated Gasoline - Non-road	Federal rule	0.59	Yes
Stage II Gasoline Vapor Recovery	SIP approved [December 13, 1994 (60 FR 63938)]	17.02	Yes
AIM Coatings Reformulation	Federal rule	7.28	Yes
Consumer & Commercial Products	Federal rule	6.58	Yes
Autobody Refinishing Reformulation	Federal rule	6.30	Yes
TSDf Controls	Federal rule	9.35	Yes
Facility Shutdowns	15% Plan approved use of specified banked shutdown credits (under PA banking rule, Chapter 127.206-209)	1.82	Yes
<b>Total Creditable Emission Reductions</b>		<b>133.63</b>	

**Part V - Summary of Rate-of-Progress Calculation For Philadelphia**

Category	tons/day
1990 Base Year Inventory	615.56
Adjustments for pre-1990 FMVCP/RVP (1990-1996)	<u>- 33.02</u>
<b>1990 Adjusted Base Year Inventory (for 1996)</b>	582.53
<b>1990 Adjusted Base Year Inventory (for 1999)</b>	<u>- 576.11</u>
Non-creditable fleet turnover (1996-1999)	6.42
15% Reduction Requirement	87.38
RACT “fix-ups”	+ 0.84
FMVCP & RVP Reductions (1990-1996)	<u>+ 33.02</u>
<b>Required Reduction (w/o growth)</b>	<b>121.24</b>
1990 Baseline Emissions	615.56
Required Reductions (w/o growth & non-creditable fleet turnover adjustment)	<u>- 121.24</u>
<b>1996 Target Level</b>	<b><u>494.31</u></b>
Non-creditable fleet turnover (1996-1999)	<u>- 6.42</u>
<b>Corrected 1996 Target Level (for I/M remodeling)</b>	<b>487.89</b>
Required Reductions (w/o growth & non-creditable fleet turnover adjustment)	121.24
1990-1996 Emissions Growth	+ 2.39
Non-creditable fleet turnover (1996-1999)	<u>6.42</u>
<b>Total Required Reduction</b>	<b>130.05</b>
<b><u>Reductions Claimed in Pennsylvania’s Revised 15% Plan</u></b>	<b><u>133.63</u></b>

**EPA Region 3 Contact:** Cristina Fernandez (3AP21), U.S. EPA Region III  
 1650 Arch Street, Philadelphia, PA 19103-2029  
 (215) 814-2178; [fernandez.cristina@epa.gov](mailto:fernandez.cristina@epa.gov)