

**Region 3 Plan Summary
Ozone Nonattainment Area**

Title: Post-1996 Rate of Progress (ROP) Plan for the Delaware Portion of the Philadelphia-Wilmington -Trenton Ozone Nonattainment Area

Federal Register Dates: August 30, 2001, 66 FR 45800 (proposed rule); October 29, 2001, 66 FR 54598 (final rule).

EPA Effective date: November 28, 2001

State Submittal Dates: December 29, 1997; revised on June 17, 1999, February 3, 2000, and December 20, 2000.

Affected Areas: Kent and New Castle Counties

Summary of the Plan: On December 29, 1997, Delaware submitted the first 9 percent ROP demonstration for the 1999 milestone year. On June 17, 1999, Delaware submitted revisions to the ROP demonstrations for the 1999 milestone year. On February 3, 2000, Delaware submitted a SIP revision to the ROP demonstration for the milestone year 2002. On December 20, 1990 Delaware submitted additional SIP revisions revising the ROP demonstration for the milestone year 2002 and adding the ROP demonstration for the milestone year 2005.

TABLE 1

**1990 BASE YEAR INVENTORY SUMMARY OF VOC AND NO_x EMISSIONS
IN TONS PER PEAK OZONE SEASON DAY**

SOURCE CATEGORY	KENT COUNTY		NEW CASTLE COUNTY		TOTAL NONATTAINMENT AREA	
	VOC	NO _x	VOC	NO _x	VOC	NO _x
Point Sources	3.24	6.13	27.08	85.77	30.32	91.90
Stationary Area Sources	12.96	1.20	34.75	5.40	47.72	6.60
Off-Road Mobile Sources	3.49	7.89	16.67	18.78	20.16	26.67
On-Road Mobile Sources	13.07	10.62	35.28	27.06	48.35	37.68
Biogenic Sources	32.46	0.00	17.51	0.00	49.97	0.00
Total Emissions	65.23	25.84	131.29	137.01	196.52	162.85

TABLE 2

**1990 BASELINE INVENTORY SUMMARY OF VOC AND NO_x EMISSIONS
IN TONS PER PEAK OZONE SEASON DAY**

SOURCE CATEGORY	KENT COUNTY		NEW CASTLE COUNTY		TOTAL NONATTAINMENT AREA	
	VOC	NO _x	VOC	NO _x	VOC	NO _x
Point Sources	3.24	6.13	26.94	85.77	30.18	91.90
Stationary Area Sources	12.78	1.20	34.37	5.39	47.15	6.60
Off-Road Mobile Sources	3.49	7.89	16.67	18.78	20.16	26.67
On-Road Mobile Sources	12.89	10.62	34.07	27.04	46.96	37.66
Total Emissions	32.40	25.84	112.05	136.98	144.45	162.83

**TABLE 3
NON-CREDITABLE FMVCP/RVP EMISSIONS REDUCTIONS (in tpd)**

DESCRIPTION	VOC	NO _x	
1990 Baseline On-Road Mobile Source Emissions	46.96	37.66	(a)
1990 Adjusted Base Year On-Road Mobile Source Emissions			
Adjusted for 1996	38.73	34.75	(b)
Adjusted for 1999	36.83	33.80	(c)
Adjusted for 2002	35.63	33.37	(d)
Adjusted for 2005	35.00	33.21	(e)
FMVCP/RVP Emissions Reductions			
For 1990-1996	8.23	2.91	(a) - (b)
For 1990-1999	10.13	3.86	(a) - (c)
For 1990-2002	11.33	4.29	(a) - (d)

DESCRIPTION	VOC	NOx	
For 1990-2005	11.96	4.45	(a) - (e)

TABLE 4
1990 ADJUSTED BASELINE VOC AND NOx EMISSIONS (in tpd)

DESCRIPTION	VOC	NOx	
1990 Baseline Inventory (All Sources)	144.45	162.83	(a)
FMVCP/RVP Emissions Reductions			
For 1990-1996	8.23	2.91	(b)
For 1990-1999	10.13	3.86	(c)
For 1990-2002	11.33	4.29	(d)
For 1990-2005	11.96	4.45	(e)
1990 Adjusted Baseline Emissions			
Relative to 1996	136.22	159.92	(a) - (b)
Relative to 1999	134.32	158.97	(a) - (c)
Relative to 2002	133.12	158.54	(a) - (d)
Relative to 2005	132.49	158.38	(a) - (e)

TABLE 5
FLEET TURNOVER CORRECTIONS FOR ON-ROAD MOBILE SOURCE
VOC and NOx EMISSIONS (tpd)

Fleet Turnover Correction	VOC	NOx	(Data from Table 3)
For 1996-1999	1.90	0**	(b) - (c)
For 1999-2002	1.20	0.43	(c) - (d)
For 2003-2005	0.63	0.16	(d) - (e)

** Fleet turnover is not needed for NOx in 1999 target calculations.

TABLE 6
CREDITABLE VOC EMISSION REDUCTIONS (in tpd) FOR THREE MILESTONE YEARS

DESCRIPTION	VOC Emissions	
1999 Milestone Year		

DESCRIPTION	VOC Emissions	
1990 Baseline VOC Emission Adjusted for 1999	134.32	(a)
1996 VOC Target Level	115.79	(b)
VOC Fleet Turnover Correction for 1996-1999	1.90	(c)
1999 VOC Control Strategy Projection	111.81	(d)
Creditable VOC Emission Reductions for 1999	2.08	(e) = (b) - (c) - (d)
% of VOC Reductions for 1999 Rate-of-Progress	1.55%	(f) = (e)/(a) x 100
2002 Milestone Year		
1990 Baseline VOC Emission Adjusted for 2002	133.12	(a)
1999 VOC Target Level	111.81	(b)
VOC Fleet Turnover Correction for 1999-2002	1.20	(c)
2002 VOC Control Strategy Projection	99.45	(d)
Creditable VOC Emission Reductions for 2002	11.16	(e) = (b) - (c) - (d)
% of VOC Reductions for 2002 Rate-of-Progress	8.38%	(f) = (e)/(a) x 100
2005 Milestone Year		
1990 Baseline VOC Emission Adjusted for 2005	132.49	(a)
2002 VOC Target Level	99.45	(b)
VOC Fleet Turnover Correction for 2003-2005	0.63	(c)
2005 VOC Control Strategy Projection	95.78	(d)
Creditable VOC Emission Reductions for 2005	3.04	(e) = (b) - (c) - (d)
% of VOC Reductions for 2005 Rate-of-Progress	2.29%	(f) = (e)/(a) x 100

**TABLE 7
REQUIRED NO_x EMISSION REDUCTIONS (in tpd) FOR THREE MILESTONE YEARS**

DESCRIPTION	NO _x Emissions	
1999 Milestone Year		
1990 Baseline NO _x Emission Adjusted for 1999	158.97	(a)
% of VOC Reductions for 1999 Rate-of-Progress	1.55%	(b)

% of NOx Reductions for 1999 Rate-of-Progress	7.45%	(c)
Total % VOC/NOx Reduction	9.00%	(d) = (b) + (c)
NOx Emission Reductions Required for 1996-1999	11.84	(e) = (a) x (c)
2002 Milestone Year		
1990 Baseline NOx Emission Adjusted for 2002	158.54	(a)
% of VOC Reductions for 2002 Rate-of-Progress	8.38%	(b)
% of NOx Reductions for 2002 Rate-of-Progress	0.62%	(c)
Total % VOC/NOx Reduction	9.00%	(d) = (b) + (c)
NOx Emission Reductions Required for 1999-2002	0.98	(e) = (a) x (c)
2005 Milestone Year		
1990 Baseline NOx Emission Adjusted for 2005	158.38	(a)
% of VOC Reductions for 2005 Rate-of-Progress	2.29%	(b)
% of NOx Reductions for 2005 Rate-of-Progress	6.71%	(c)
Total % VOC/NOx Reduction	9.00%	(d) = (b) + (c)
NOx Emission Reductions Required for 2003-2005	10.63	(e) = (a) x (c)

**TABLE 8
TARGET LEVELS OF VOC AND NO_x EMISSIONS (in tpd) IN EACH MILESTONE YEAR**

DESCRIPTION	EMISSIONS (tpd)		
	VOC	NO _x	
1996 Target Level - VOC	115.79		(a)
1990 Baseline Adjusted for 1999 - NO _x		158.97	
1999 Milestone Year			
Emission Reduction for Rate of Progress	2.08	11.84	(b)
Fleet Turnover Correction for 1996-1999	1.90	0	(c)
Target Level for 1999	111.81	147.13	(d) = (a) - (b) - (c)
2002 Milestone Year			

DESCRIPTION	EMISSIONS (tpd)		
Emission Reduction for Rate of Progress	11.16	0.983	(e)
Fleet Turnover Correction for 1999-2002	1.2	0.43	(f)
Target Level for 2002	99.45	145.72	(g) = (d) - (e) - (f)
2005 Milestone Year			
Emission Reduction for Rate of Progress	3.04	10.63	(h)
Fleet Turnover Correction for 2003-2005	0.63	0.16	(i)
Target Level for 2005	95.78	134.93	(j) = (g) - (h) - (i)

TABLE 9
SUMMARY OF CURRENT CONTROL PROJECTION INVENTORY OF VOC
EMISSIONS FOR KENT AND NEW CASTLE COUNTY
NONATTAINMENT AREA IN TONS PER PEAK OZONE SEASON DAY

CATEGOR Y	KENT COUNTY					NEW CASTLE COUNTY				
	1990	1996	1999	2002	2005	1990	1996	1999	2002	2005
Point Sources	3.24	3.18	3.27	3.36	3.44	26.94	26.65	27.19	27.91	28.56
Stationary Area Sources	12.78	13.09	13.47	13.76	14.03	34.37	35.42	36.48	37.23	37.98
Off-Road Mobile Sources	3.49	3.79	3.92	4.09	4.21	16.67	17.19	17.70	18.17	18.56
On-Road Mobile Sources	12.89	14.45	15.24	16.26	16.86	34.07	34.55	36.46	38.22	40.45
Total Emissions	32.40	34.51	35.90	37.47	38.54	112.05	113.81	117.84	121.53	125.55

TABLE 10
SUMMARY OF CURRENT CONTROL PROJECTION INVENTORY NO_x
EMISSIONS BY COUNTY IN TONS PER PEAK OZONE SEASON DAY

CATEGOR Y	KENT COUNTY					NEW CASTLE COUNTY				
	1990	1996	1999	2002	2005	1990	1996	1999	2002	2005
Pot Sources	6.13	7.67	6.54	6.99	7.34	85.77	99.14	96.69	94.84	99.42
Stationary Area Sources	1.20	1.27	1.31	1.35	1.38	5.40	5.70	5.89	6.04	6.18
Off-Road Mobile Sources	7.89	8.30	8.56	9.02	9.31	18.78	19.43	19.92	21.18	21.80
On-Road Mobile Sources	10.62	11.91	12.57	13.18	13.89	27.04	30.86	32.56	34.27	36.15
Total Emissions	25.84	29.15	28.98	30.54	31.92	136.99	155.13	155.06	156.33	163.55

TABLE 11
SUMMARY OF TOTAL CURRENT CONTROL PROJECTION INVENTORY OF VOC AND
NO_x EMISSIONS FOR KENT AND NEW CASTLE COUNTIES IN TONS PER PEAK
OZONE SEASON DAY

CATEGOR Y	VOC					NO _x				
	1990	1996	1999	2002	2005	1990	1996	1999	2002	2005
Point Sources	30.18	29.83	30.46	31.27	32.00	91.90	106.81	103.23	101.83	106.76
Stationary Area Sources	47.15	48.51	49.95	50.99	52.00	6.60	6.97	7.20	7.39	7.56
Off-Road Mobile Sources	20.16	20.98	21.62	22.26	22.77	26.67	27.72	28.48	30.20	31.11
On-Road Mobile Sources	49.96	49.00	51.70	54.48	57.31	37.66	42.77	45.13	47.45	50.04
Total Emissions	144.45	148.32	153.73	159.00	164.08	162.83	184.28	184.04	186.87	195.47

TABLE 12
SUMMARY OF EMISSIONS GROWTH BETWEEN 1996 AND 1999
IN TONS PER PEAK OZONE SEASON DAY

Category	Growth in VOC Emissions		
	Kent	New Castle	Total Nonattainment Area
Point Sources	0.09	0.55	0.64
Stationary Area Sources	0.37	1.06	1.43
Off-road Sources	0.13	0.50	0.63
On-road Sources	0.80	2.18	2.98
TOTAL EMISSIONS	1.39	4.29	5.68

TABLE 13
SUMMARY OF EMISSION GROWTHS BETWEEN 1999 AND 2002 (in tpd)

Category	Growth in VOC Emissions			Growth in NOx Emissions*		
	Kent	New Castle	Total NAA	Kent	New Castle	Total NAA
Point Sources	0.09	0.72	0.81	0.45	-1.85	-1.40
Stationary Area Sources	0.29	0.74	1.03	0.04	0.14	0.18
Off-road Sources	0.17	0.47	0.64	0.47	1.25	1.72
On-road Sources	1.04	2.01	3.05	0.61	1.71	2.32
TOTAL EMISSIONS	1.59	3.94	5.53	1.57	1.25	2.82

* The minus sign (-) indicates decline instead of growth.

TABLE 14
SUMMARY OF EMISSION GROWTHS BETWEEN 2003 AND 2005 (in tpd)

Category	Growth in VOC Emissions			Growth in NOx Emissions		
	Kent	New Castle	Total NAA	Kent	New Castle	Total
Point Sources	0.08	0.65	0.73	0.35	4.58	4.93
Stationary Area Sources	0.26	0.75	1.01	0.03	0.14	1.17
Off-road Sources	0.12	0.39	0.50	0.28	0.62	0.90
On-road Sources	0.60	2.23	2.83	0.71	1.88	2.59
TOTAL EMISSIONS	1.06	4.02	5.07	1.37	7.23	8.60

**TABLE 15
REQUIRED EMISSIONS REDUCTIONS FOR MILESTONE YEAR 1999
IN TONS PER PEAK OZONE SEASON DAY**

DESCRIPTION	VOC	NOx
Current Control Projection	153.73	184.04
Target Level	111.81	147.13
Emissions Reductions Required for 1999	41.92	36.91

**TABLE 16
REQUIRED EMISSIONS REDUCTIONS FOR MILESTONE YEAR 2002
IN TONS PER PEAK OZONE SEASON DAY**

DESCRIPTION	VOC	NOx
Current Control Projection	159.00	186.87
Target Level	99.45	145.72
Emissions Reductions Required for 2002	59.55	41.15

**TABLE 17
REQUIRED EMISSIONS REDUCTIONS FOR MILESTONE YEAR 2005
IN TONS PER PEAK OZONE SEASON DAY**

DESCRIPTION	VOC	NOx
Current Control Projection	164.08	195.47

Target Level	95.78	134.93
Emissions Reductions Required for 2005	68.30	60.54

**TABLE 18
CONTROL STRATEGY PROJECTIONS FOR VOC and NO_x EMISSIONS (in tpd)**

Milestone Year	Kent County		New Castle County		Total Nonattainment	
	VOC	NO _x	VOC	NO _x	VOC	NO _x
1999	22.83	25.19	88.98	121.91	111.81	147.10
2002	19.79	23.46	79.29	116.42	99.08	139.88
2005	18.93	20.87	76.49	113.38	95.42	134.25

**TABLE 19
1999 ON-ROAD MOBILE SOURCE EMISSIONS BUDGET FOR KENT AND NEW CASTLE COUNTIES IN TONS PER PEAK OZONE SEASON DAY (tpd)**

Description	Kent		New Castle	
	VOC	NO _x	VOC	NO _x
Emissions without LEV	7.55	10.27	22.49	28.51
NO _x surplus assigned	N/A	0.90	N/A	0.90
County Emissions Budget	7.55	11.17	22.49	29.41

**TABLE 20
2002 CONTROL STRATEGY PROJECTIONS FOR ON-ROAD MOBILE SOURCE EMISSIONS (in tpd)**

County	VOC	NO _x
Kent	6.30	9.81
New Castle	18.44	27.29
Total NAA	24.74	37.10

**TABLE 21
2005 CONTROL STRATEGY PROJECTIONS FOR ON ROAD MOBILE SOURCE EMISSIONS (in tpd)**

County	VOC	NOx
Kent	4.84	7.90
New Castle	14.76	22.92
Total NAA	19.60	30.82

TABLE 22
Control Measures, Expected VOC & NOx Emissions Reductions
in tons per year peak ozone season for the 1999 RPP

CONTROL MEASURES & REGULATIONS	CREDITABILITY	Effective Date	VOC Reductions	NOX Reductions
Point Source Controls				
RACT IN KENT COUNTY				
- Solvent Metal Cleaning	Creditable	May 31, 1995	0.57	N/A
- Surface Coating of Metal Furniture	Creditable	May 31, 1995	0.08	N/A
- Leaks from Synthetic Organic Chemical, Polymer, and Resin	Creditable	May 31, 1995	0.01	N/A
DE RACT REGULATIONS				
- Bulk Gasoline Marine Tank Vessel Loading Facilities	Creditable	December 31, 1995	1.89	N/A
- SOCFI Reactor Processes and Distillation Operations	Creditable	April 1, 1996	0.02	N/A
- Batch Processing Operations	Creditable	April 1, 1996	0.42	N/A
- Offset Lithography	Creditable	April 1, 1996	0.08	N/A
- Aerospace Coatings	Creditable	April 1, 1996	0.01	N/A
- Industrial Cleaning Solvents	Creditable	April 1, 1996	0.51	N/A
- Non-CTG RACT	Creditable	November 1, 1996	0.37	N/A
- DE NOX RACT	Creditable	May 31, 1995	0.00	2.23
		May 31, 1995		
REGIONAL CONTROLS				
- Regional NOx MOU	Creditable	May 1, 1999	0.00	28.91
FEDERAL RULES				
- Benzene Waste Rule	Creditable	Spring 1995	1.72	N/A

CONTROL MEASURES & REGULATIONS	CREDITABILITY	Effective Date	VOC Reductions	NOX Reductions
OTHER DE REGULATIONS - Sanitary Landfills - Irreversible Process Changes	Creditable Creditable	October 9, 1993 January 1, 1996	0.25 1.93	N/A N/A
Total Point Source Reductions			7.86	31.14

STATIONARY AREA SOURCE CONTROLS				
RACT CATCH-UPS IN KENT CO. - Solvent Cleaning - Cutback Asphalt	Creditable Creditable	May 31, 1995 May 31, 1995	0.13 0.03	N/A N/A
DE RACT REGULATIONS - Stage I Vapor Recovery - Gasoline Dispensing Facilities - Emulsified Asphalt - Motor Vehicle Refinishing - Offset Lithography - Aerospace Coatings - Stage II Vapor Recovery Systems	Creditable Creditable Creditable Creditable Creditable Creditable	November 15, 1994 May 31, 1995 April 1, 1996 April 1, 1996 April 1, 1996 November 15, 1994	0.64 0.05 1.29 0.08 0.03 1.78	N/A N/A N/A N/A N/A
OTHER DE REGULATIONS - Open Burning	Creditable	February 8, 1995	7.67	1.53
Total Stationary Area Source Reductions			11.70	1.53

OFF-ROAD MOBILE SOURCE CONTROLS
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- Reformulated Gasoline	Creditable	January 1, 1995	0.52	N/A
- New Emissions Standards for Spark Ignition Engines	Creditable	EPA-Court Ordered	1.78	-0.08
- New Emissions Standards for Compression Ignition Engines	Creditable	EPA-Court Ordered	0.00	1.12
- New Emissions Standards for Marine Engines	Creditable	EPA-Court Ordered	0.01	-0.00
Total Off-Road Source Reductions			2.31	1.04
ON-ROAD MOBILE SOURCE CONTROLS				
- FMVCP and RVP	Noncreditable	Pre-1990	18.12	2.14
- Tier I Vehicle Emissions Standards	Creditable	Model Year 1994	1.42	3.41
- a. Basic I/M in Kent County	Creditable	January 1, 1991	1.40	0.23
- b. ATP and Pressure Test in Kent County	Creditable	January 1, 1995		
- ATP and Pressure Test in New Castle County	Creditable	January 1, 1995	4.24	0.76
- Reformulated Gasoline	Creditable	January 1, 1995	2.48	-0.17
- LEV Program	Discredited (do not count in the totals)	November 1999	(0.05)	(0.10)
Total On-Road Mobile Source Reduction			27.66	6.37
TOTAL EMISSION REDUCTIONS			49.53	40.08

TABLE 23
Summary of VOC and NOx Emission Control Measures and
Expected Emission Reductions for 2002 (in tpd)

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
Point Source Controls				

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
RACT "Catch-Ups" In Kent County:	Creditable	May 31, 1995	0.54	0.00
Solvent Metal Cleaning	Creditable	May 31, 1995	0.03	0.00
Surface Coating of Metal Furniture	Creditable	May 31, 1995	0.01	0.00
Leaks from Synthetic Organic Chemical, Polymer & Resin Manufacturing Equipment				
Subtotal for RACT "Catch-Ups" in Kent County			0.58	0.00
New RACT Regulations:				
Bulk Gasoline Marine Tank Vessel	Creditable	December 31, 1995	1.89	0.00
Loading Facilities	Creditable		0.02	0.00
SOCMI Reactor Processes and Distillation Operations	Creditable	April 1, 1996	0.43	0.00
Batch Processing Operations	Creditable	April 1, 1996	0.09	0.00
Offset Lithography	Creditable	April 1, 1996	0.01	0.00
Aerospace Coatings	Creditable	April 1, 1996	0.52	0.00
Industrial Cleaning Solvents	Creditable	April 1, 1996	0.38	0.00
Non-CTG RACT	Creditable	April 1, 1996	N/A	2.32
Delaware NOx RACT		April 1, 1996		
Subtotal for New RACT Regulations			3.34	2.32
Regional Controls:				
OTR Regional NOx MOU	Creditable	May 1, 1999	N/A	27.22
Federal Benzene Waste Rule and Delaware Air Regulation 24.28	Creditable	Spring 1995	1.32	0.00
Other Delaware Regulations:				
Sanitary Landfills	Creditable	October 9, 1993	0.35	0.00
Irreversible Process Changes	Creditable	January 6, 1996	1.96	0.00
Total for Point Source Reductions			7.55	29.54
Stationary Area Source Controls				
RACT "Catch-Ups" in Kent Co. :				
Solvent Metal Cleaning	Creditable	May 31, 1995	0.13	0.00
Cutback Asphalt	Creditable	May 31, 1995	0.03	0.00
Subtotal for RACT "Catch-Ups" in Kent County			0.16	0.00

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
New RACT Regulations: Stage I Vapor Recovery - Gasoline	Creditable	November 15, 1994	0.65	0.00
Emulsified Asphalt	Creditable	May 31, 1995	0.05	0.00
Motor Vehicle Refinishing	Creditable	April 1, 1996	1.32	0.00
Offset Lithography	Creditable	April 1, 1996	0.08	0.00
Aerospace Coatings	Creditable	April 1, 1996	0.03	0.00
Stage II Vapor Recovery	Creditable	November 15, 1994	1.88	0.00
Subtotal for New RACT Regulations			4.03	0.00
Other Delaware Regulations: Open Burning	Creditable	February 8, 1995	7.83	1.56
Federal Rules: Consumer Products	Creditable	September 11, 1998	0.59	0.00
Architectural Coatings	Creditable	September 11, 1998	1.34	0.00
Total for Area Source Reductions			13.95	1.56
Off-Road Mobile Source Controls				
Reformulated Fuel	Creditable	January 1, 1995	0.03	0.00
New Emission Standards: For Small Spark Ignition Engines	Creditable	EPA: Court	4.07	0.05
For Compression Ignition Engines	Creditable	Ordered.	0.73	2.82
For Marine Engines	Creditable	December 31, 2001	1.02	-0.06
For Locomotives	Creditable		0.00	0.52
Total for Off-Road Mobile Source Reductions			5.86	3.33
On-Road Mobile Source Controls				
FMVCP and RVP	Noncreditable	Pre-1990	19.93	2.53
Tier I Vehicle Emissions Standards	Creditable	Model Year 1994	4.28	5.95
a. Basic I/M for Kent County	Creditable	January 1, 1991	1.21	0.53
b. ATP and Pressure Test for Kent		January 1, 1995		
ATP and Pressure Test for New Castle	Creditable	January 1, 1995	4.30	0.70

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
Reformulated Fuel	Creditable	January 1, 1995	5.88	-0.19
LEV Program	Creditable	January 1, 1995	0.41	0.85
Total for On-Road Mobile Source Reductions			36.01	10.37
Total Reductions from All Controls			63.37	44.80

TABLE 24
Summary of VOC and NOx Emission Control Measures and
Expected Emission Reductions for 2005 (in tpd)

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
Point Source Controls				
RACT "Catch-Ups" in Kent County:	Creditable	May 31, 1995	0.54	0.00
Solvent Metal Cleaning	Creditable	May 31, 1995	0.07	0.00
Surface Coating of Metal Furniture	Creditable	May 31, 1995	0.01	0.00
Leaks from Synthetic Organic Chemical, Polymer & Resin Manufacturing Equipment				
Subtotal for RACT "Catch-Ups" in Kent County			0.62	0.00

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
New RACT Regulations:				
Bulk Gasoline Marine Tank Vessel	Creditable	December 31, 1995	1.90	0.00
Loading Facilities	Creditable		0.03	0.00
SOCMI Reactor Processes and Distillation Operations	Creditable	April 1, 1996	0.44	0.00
Batch Processing Operations	Creditable	April 1, 1996	0.09	0.00
Offset Lithography	Creditable	April 1, 1996	0.01	0.00
Aerospace Coatings	Creditable	April 1, 1996	0.53	0.00
Industrial Cleaning Solvents	Creditable	November 29, 1994	0.38	0.00
Non-CTG RACT	Creditable	May 31, 1995	N/A	2.39
Delaware NOx RACT		May 31, 1995		
Subtotal for New RACT Regulations			3.38	2.39
Regional Controls:				
Federal NOx SIP Call Regional Control	Creditable	May 1, 2003	N/A	32.93
Federal Benzene Waste Rule and Delaware Air Regulation 24.28	Creditable	Spring 1995	1.32	0.00
Other Delaware Regulations:				
Sanitary Landfills	Creditable	October 9, 1993	0.44	0.00
Irreversible Process Changes	Creditable	January 1, 1996	2.01	0.00
Total for Point Source Reductions			7.77	35.32
Stationary Area Source Controls				
RACT "Catch-Ups" in Kent County:				
Solvent Metal Cleaning	Creditable	May 31, 1995	1.13	0.00
Cutback Asphalt	Creditable	May 31, 1995	0.03	0.00
Subtotal for RACT "Catch-Ups" Kent County			0.16	0.00

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
New RACT Regulations: Stage I Vapor Recovery - Gasoline	Creditable	November 15, 1994	0.66	0.00
Emulsified Asphalt	Creditable	May 31, 1995	0.05	0.00
Motor Vehicle Refinishing	Creditable	April 1, 1996	1.36	0.00
Offset Lithography	Creditable	April 1, 1996	0.09	0.00
Aerospace Coatings	Creditable	April 1, 1996	0.03	0.00
Stage II Vapor Recovery	Creditable	November 15, 1994	2.56	0.00
Subtotal for New RACT Regulations			4.75	0.00
Other Delaware Regulations: Open Burning	Creditable	February 8, 1995	7.81	1.59
Federal Rules: Consumer Products	Creditable	September 11, 1998	0.59	0.00
Architectural Coatings	Creditable	September 11, 1998	1.38	0.00
Total for Area Source Reductions			14.69	1.59
Off-Road Mobile Source Controls				
Reformulated Fuel	Creditable	January 1, 1995	0.03	0.00
New Emission Standards: For Small Spark Ignition Engines	Creditable	EPA:	4.99	0.06
For Compression Ignition Engines	Creditable	Court Ordered.	1.07	4.38
For Marine Engines	Creditable	December 31,	2.04	-0.11
For Locomotives	Creditable	2001	0.00	0.77
Total for Off-Road Mobile Source Reductions			8.13	5.10
On-Road Mobile Source Controls				

Control Measures & Regulations	Creditability	Effective Date	VOC Reductions	NOx Reductions
Controls present after 1990, including: FMVCP and RVP Tier I Vehicle Emissions Standards Basic I/M for Kent County ATP and Pressure Test for Kent ATP and Pressure Test for New Castle Reformulated Fuel Heavy Duty Diesel Engines NLEV Program	Noncreditable Creditable Creditable Creditable Creditable Creditable Creditable Creditable	Pre-1990 Model Year 1994 January 1, 1991 January 1, 1995 January 1, 1995 January 1, 1995 Model Year 2004 November 1, 1999	37.01	15.60
Tier II Emission Standards/Low Sulfur Fuel	Creditable	January 1, 2004	0.70	3.61
Total On-Road Mobile Source Reductions			37.71	19.21
Total Reductions from All Controls			68.30	61.22

Contingency Measures:

For 1999

Contingency Measures	Emission Reduction (tpd)	
	VOC	NOx
Stage II Vapor Recovery with Annual Inspection	0.634	
NOx Controls in Peak Ozone Season		4.02

For 2002

Contingency Measures	Emission Reduction (tpd)	
	VOC	NOx
Stage II Vapor Recovery with Annual Inspection	0.58	
NOx Controls in Peak Ozone Season		1.52
RE Improvement in NOx Regional Control Rule		2.55
Total NOx Emission Reduction		4.07

For 2005

Contingency Measures	Emission Reduction (tpd)	
	VOC	Nox
Stage II Vapor Recovery with Annual Inspection	0.24	
Open Burning	0.16	
Total VOC Emission Reduction	0.40	
NOx Controls in Peak Ozone Season		1.13
RE Improvement in NOx Regional Control Rule		3.48
Total NOx Emission Reduction		4.61

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