

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF AIR AND WASTE MANAGEMENT
Statutory Authority: 7 Delaware Code, Chapter 60 (7 Del.C. Ch.60)

REGISTER NOTICE
GENERAL NOTICE

Amendments To Delaware Phase II Attainment Demonstration For The Philadelphia-Wilmington-Trenton Ozone Non-attainment Area

1. Title Of The Regulations:

AMENDMENTS TO DELAWARE PHASE II ATTAINMENT DEMONSTRATION FOR THE PHILADELPHIA-WILMINGTON-TRENTON OZONE NON-ATTAINMENT AREA: Mid-Course Review on Progress toward Attainment of the 1-Hour Ozone National Ambient Air Quality Standard.

2. Brief Synopsis Of The Subject, Substance And Issues:

The Clean Air Act Amendments of 1990 (CAAA) require Delaware to submit to the U.S. Environmental Protection Agency (EPA) a State Implementation Plan (SIP) revision to demonstrate its capability of attaining the 1-hour National Ambient Air Quality Standard (NAAQS) for the ground-level ozone in Kent and New Castle Counties by 2005. This SIP revision, termed the Phase II Attainment Demonstration, was initially submitted to the EPA in May 1998, and amended in October 1998, January 2000, December 2000, October 2001, and June 2003.

The document presented herein amends Delaware's Phase II Attainment Demonstration SIP revision again. The document analyzes emission trends of VOC and NOx and ambient air quality data regarding ground level ozone. The document concludes that (1) Delaware's current control strategies are adequate toward attaining the 1-hour ozone standard by 2005 and, (2) those control strategies have ensured a beginning of an adequate progress toward attaining of the 8-hour ozone standard.

3. Possible Terms Of The Agency Action:

None.

4. Statutory Basis Or Legal Authority To Act:

7 Del.Ch., Chapter 60, Environmental Control.

5. Other Regulations That May Be Affected By The Proposal:

None.

6. Notice Of Public Comment:

A public hearing will be held on December 1, 2004, beginning at 6:00 p.m., in AQM Conference Room, Priscilla Building, 156 South State Street, Dover, DE 19901.

7. Prepared By:

Frank F. Gao, Project Leader, (302) 323-4542, October 12, 2004.

Proposal

DELAWARE PHASE II ATTAINMENT DEMONSTRATION FOR THE PHILADELPHIA-WILMINGTON-TRENTON OZONE NON-ATTAINMENT AREA
Mid-Course Review on Progress toward Attainment of the 1-Hour Ozone National Ambient Air Quality Standard

Delaware Department Of Natural Resources And Environmental Control Dover, Delaware

November 2004

Acronym List

AQM Air Quality Management Section of DNREC

CAAA	Clean Air Act Amendments of 1990
CMSA	Consolidated Metropolitan Statistical Area
CO	Carbon Monoxide
DAWM	Division of Air and Waste Management of DNREC
DNREC	Delaware Department of Natural Resources and Environmental Control
EPA	United States Environmental Protection Agency
FMVCP	Federal Motor Vehicle Control Program
I/M	Inspection and Maintenance
LEV	Low Emission Vehicle
MCD	Milestone Compliance Demonstration
MCR	Mid-Course Review
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standard
NLEV	National Low Emission Vehicle
NOx	Oxides of Nitrogen
OAQPS	Office of Air Quality Planning and Standards of EPA
OTAG	Ozone Transport Assessment Group
OTC	Ozone Transport Commission
OTR	Ozone Transport Region
PCP	Planning and Community Protection Branch of DNREC
PEI	Periodic Emission Inventory
RACT	Reasonably Available Control Technology
RPP	Rate-of-Progress Plan
RVP	Reid Vapor Pressure
SIP	State Implementation Plan
TPD	Tons per day
TPY	Tons per year
VOC	Volatile Organic Compound

Summary

This document fulfills Delaware's commitments to conduct a mid-course review (MCR), by December 31, 2004, to assess adequacy of its emission control measures and progress toward attainment of the 1-hour ozone National Ambient Air Quality Standard (NAAQS).

Under the requirements of sections 182(b)(1) and 182(d) of the Clean Air Act Amendments of 1990 (CAAA) regarding the 1-hour ozone NAAQS, Delaware has implemented and committed to implement a comprehensive list of control measures to reduce emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in its two severe nonattainment counties, i.e., Kent and New Castle Counties. Those measures include federal and state rules and controls that cover a large variety of emission sources, including point, area, on-road mobile and off-road mobile sources. This document show that (1) Delaware's control measures have produced significant and consistent VOC and NOx emission reductions since 1990, (2) as a result of those emission reductions, the ambient air quality regarding ozone has been significantly improved toward attainment of the 1-hour ozone standard in 2005, and (3) therefore, Delaware's current control framework is adequate and no additional controls will be needed before EPA revokes the 1-hour ozone standard in June of 2005. However, it must be noted that ozone and ozone precursor transport continues to negatively impact Delaware's air quality, and that EPA should cause such transport to be mitigated prior to Delaware's 8-hour ozone attainment date of 2010.

1.0 Introduction

1.1 Background

Under the Clean Air Act Amendments of 1990 (CAAA), Kent and New Castle Counties in Delaware are classified as severe nonattainment areas with respect to the 1-hour National Ambient Air Quality Standard (NAAQS) for ground-level ozone (Reference 1). The CAAA requires Delaware to submit to the U.S. Environmental Protection Agency (EPA) a State Implementation Plan (SIP) revision to demonstrate that the 1-hour ozone standard will be attained by 2005 in these two counties with necessary and adequate control measures to reduce emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx). That SIP revision, entitled “Delaware Phase II Attainment Demonstration for Philadelphia-Wilmington-Trenton Ozone Nonattainment Area,” was originally submitted to EPA in May 1998, and amended in October 1998, January 2000, December 2000, October 2001, and June 2003 (Reference 2).

In order to settle a complaint filed by six environmental groups in U.S. District Court, EPA required, as a condition of approval of the Phase II Attainment Demonstration SIP of each state in the Philadelphia-Wilmington-Trenton non-attainment area, that a mid-course review (MCR) be conducted to evaluate the progress being made toward attainment of the 1-hour ozone standard (Reference 3). The results of the MCR were required to be submitted to EPA by December 31, 2003, and would be used to determine if any additional controls would be necessary to ensure the attainment by 2005. Pursuant to this EPA requirement, Delaware committed in its January 2000 SIP revision to perform an MCR by December 31, 2003. This MCR requirement was also imposed on other states with severe non-attainment areas with respect to the 1-hour ozone standard.

Following the above, an order of the U.S. Court of Appeals for D.C. Circuit delayed the implementation of EPA’s NOx Transport SIP Call from 2003 to 2004. The NOx Transport SIP Call is a significant part of the overall 1-hour ozone attainment strategy. In response to this court order, EPA allowed states to revise the MCR due date to a date after May 31, 2004. The later MCR date is believed to better serve the MCR purpose (i.e., to enable states to evaluate the adequacy of their attainment strategy, and to facilitate initiation of additional control measures if necessary). Many states affected by the NOx SIP Call emission reductions, including those in the Ozone Transport Region (OTR), have revised their commitment to conduct and submit the MCR on a schedule later than May 31, 2004 (Reference 4). In its June 2003 amendments to the Phase II Attainment demonstration SIP revision, Delaware also changed its original MCR completion date from December 31, 2003 to December 31, 2004.

This document fulfills Delaware’s commitments in its January 2002 and June 2003 amendments to the Phase II Attainment Demonstration SIP revision to conduct a MCR by December 31, 2004.

1.2 Responsibilities

The agency with direct responsibility for preparing and submitting this document is Delaware Department of Natural Resources and Environmental Control (DNREC), Division of Air and Waste Management (DAWM), Air Quality Management Section (AQM), under the direction of Ali Mirzakhali, Program Administrator. The working responsibility for Delaware’s air quality management planning falls within the Planning and Community Protection (PCP) Branch of AQM Section, under the management of Raymond H. Malenfant, Program Manager and Ronald A. Amirikian, Planning Supervisor. Frank F. Gao, Environmental Engineer in the Airshed Evaluation and Planning Program in the PCP Branch, is the project leader and principal author of this document. Questions or comments regarding this document should be addressed to F. Gao, (302)323-4542, AQM, 715 Grantham Lane, New Castle, DE 19720, or be e-mailed to Frank.Gao@state.de.us.

2.0 Emission Reduction Requirements and Control Strategies

2.1 Rate-of-Progress Requirements

In order for the severe nonattainment areas (NAA) to attain the 1-hour ozone standard by 2005, Sections 182(b)(1) and 182(d) set forth the following specific rate-or-progress emission reduction requirements: (1) to achieve by 1996 an actual VOC emission reduction of at least 15% of its 1990 VOC emission level, and (2) to achieve an additional 3% per year VOC and/or NOx emission reductions from the 1990 emission levels between 1997 and 2005.

Delaware developed its 1990 Base Year Emission Inventory in May 1994, and approved by EPA in March 1996 (Reference 5). This 1990 base year emission inventory is used as the basis for Delaware to develop its rate-of-progress plans and control strategies toward attainment of the 1-hour ozone standard in 2005. A summary of VOC and NOx emissions from all anthropogenic sources in Kent and New Castle Counties in the 1990 Base Year Inventory is presented in Table 1.

Table 1. Summary of VOC and NOx Emissions (in TPD) in 1990 Base Year Inventory*

1990 Base Year	Kent		New Castle		Total NAA	
Anthropogenic Source	VOC	NOx	VOC	NOx	VOC	NOx

Total Emissions (TPD)	32.59	25.84	113.26	137.00	145.84	162.85
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*Data obtained from Delaware 1990 Base Year Emission Inventory (Reference 5).

To meet the rate-of-progress emission reduction requirements, Delaware has developed the following four rate-of-progress plans (RPP) for its two severe nonattainment counties (i.e., Kent and New Castle Counties): the 1996 RPP, the 1999 RPP, the 2002 RPP and the 2005 RPP. The 1996 RPP specifies Delaware's control strategies to achieve the required 15% VOC emission reduction. The 1999 RPP, the 2002 RPP and the 2005 RPP describe Delaware's emission control strategies to achieve an additional 9% VOC and/or NOx reductions in the 3-year periods of 1997-1999, 2000-2002, and 2003-2005, respectively. By meeting the rate-of-progress emission reduction requirements, these RPPs set forth VOC and/or NOx emission targets for 1996, 1999, 2002, and 2005, which are defined as rate-of-progress milestone years. A summary of VOC and /or NOx emission targets for individual milestone years are presented in Table 2. Details of how to estimate emission reductions and emission targets can be found in References 6, 7, 8, 9, 10, and 11.

Table 2. Delaware VOC and/or NOx Emission Targets for Individual Milestone Years.

Emission Targets (TPD)	1996 Milestone Year	1999 Milestone Year	2002 Milestone Year	2005 Milestone Year
VOC	115.82	110.21	101.54	95.41
NOx	*	148.96	143.12	135.37

*NOx reduction was not required for the 1996 milestone year.

As mentioned above, from 1990 base year to 2005 attainment year, Delaware is required to achieve a total of 42% emission reduction from the 1990 base year level, in which 15% reduction must be obtained from VOC emissions between 1990 and 1996. To achieve this 42% emission reduction goal by 2005, Delaware has implemented and/or proposed numerous control measures. These control measures include federal mandatory rules and Delaware state regulations being promulgated prior to the peak ozone season of 2005. These rules and regulations cover a large variety of VOC and NOx emission sources in all anthropogenic source sectors in Kent and New Castle Counties. A list of the control measures, along with their implementation dates, is given in Table 3. Detailed descriptions of individual rules and regulations can be found in Delaware 2005 RPP (Reference 10), and Delaware Regulations Governing Control of Air Pollution (Reference 12).

Table 3. Control Measures for VOC and NOx Emissions in 2005 RPP.

Control Measures and Regulations	Creditability	Emission Controlled	Effective Date
Point Source Controls			
RACT "Catch-Ups" in Kent County:			
Solvent Metal Cleaning	Creditable	VOC	31-May-95
Surface Coating of Metal Furniture	Creditable	VOC	31-May-95
Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufact. Equip.	Creditable	VOC	31-May-95
New RACT Regulations:			

Bulk Gas. Marine Tank Vessel Loading Facil.	Creditable	VOC	31-Dec-95
SOCMI Reactor Proc. and Distillation Operat.	Creditable	VOC	01-Apr-96
Batch Processing Operations	Creditable	VOC	01-Apr-96
Offset Lithography	Creditable	VOC	01-Apr-96
Aerospace Coatings	Creditable	VOC	96
Industrial Cleaning Solvents	Creditable	VOC	29-Nov-94
Non-CTG RACT	Creditable	VOC	31-May-95
Delaware NOx RACT	Creditable	NOx	31-May-95
Regional Control: Federal NOx SIP Call	Creditable	NOx	01-Jun-04
Federal Benzene Waste Rule	Creditable	VOC	Spring 1995
Sanitary Landfills	Creditable	VOC	09-Oct-93
Irreversible Process Changes	Creditable	VOC	01-Jan-96
Stationary Area Source Controls			
RACT "Catch-Ups" in Kent County:			
Solvent Metal Cleaning	Creditable	VOC	31-May-95
Cutback Asphalt	Creditable	VOC	31-May-95
New RACT Regulations: Stage I Vapor Recovery-Gas. Dispensing Facil.	Creditable	VOC	15-Nov-94
Emulsified Asphalt	Creditable	VOC	31-May-95
Motor Vehicle Refinishing	Creditable	VOC	01-Apr-96
Offset Lithography	Creditable	VOC	01-Apr-96
Aerospace Coatings	Creditable	VOC	01-Apr-96
Stage II Vapor Recovery	Creditable	VOC	15-Nov-94
Delaware Open Burning Rule	Creditable	VOC, NOx	08-Feb-95
Off-Road Mobile Source Controls			
Reformulated Fuel	Creditable	VOC	01-Jan-95
New Emission Standards			
Spark Ignition Engines	Creditable	VOC, NOx	Court-Ordered
Compression Ignition Engines	Creditable	VOC, NOx	Court-Ordered
Marine Engines	Creditable	VOC	Court-Ordered
Locomotives	Creditable	NOx	31-Dec-01

On-Road Mobile Source Controls			
FMVCP and RVP	Noncreditable	VOC, NOx	Pre-1990
Tier I Vehicle Emissions Standards	Creditable	VOC, NOx	Model Yr 1994
Basic I/M for Kent County	Creditable	VOC, NOx	01-Jan-91
ATP and Pressure Test for Kent County	Creditable	VOC, NOx	01-Jan-95
ATP and Pressure Test for New Castle County	Creditable	VOC, NOx	01-Jan-95
Reformulated Fuel Phase II	Creditable	VOC	95 01-Nov-
LEV Program	Creditable	VOC, NOx	99
Heavy Duty Diesel Engines	Creditable	VOC, NOx	Model Yr 2004
Tier II Emissions Standards and Low Sulfur Fuel	Creditable	VOC, NOx	01-Jan-04

2.2 Attainment Demonstration Requirements on Emission Reductions

As mentioned earlier, Delaware submitted to EPA its original Phase II Attainment Demonstration SIP revision for the Delaware part of the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area in 1998, and amended it several times thereafter. In this Phase II Attainment Demonstration SIP revision, Delaware uses results from comprehensive photochemical models, which incorporate all emission control measures in Table 3, to demonstrate Delaware's capability of attaining the 1-hour ozone standard in 2005. In December 1999, however, EPA decided that VOC and NOx emission reductions from all control measures being contained in all involved states' 2005 RPPs would not be enough to guarantee the entire Philadelphia-Wilmington-Trenton Ozone Nonattainment Area to attain the 1-hour ozone standard in 2005, and therefore the states in this entire nonattainment area must implement additional emission controls to offset the emission reduction shortfalls (Reference 13).

To meet EPA's requirements regarding the emission reduction shortfalls, Delaware, along with other states in the Ozone Transport Region (OTR), developed some new or more stringent controls or rules to achieve additional VOC and NOx emission reductions. Delaware submitted to EPA in October 2001 its amendments to the Phase II Attainment Demonstration SIP revision, which specified those promulgated rules to achieve these additional emission reductions (Reference 13). A summary of these rules is presented in Table 4.

Table 4. Additional Controls and Rules to Address Emission Reduction Shortfalls.

Control Measures and Regulations Addressing "Shortfalls"	Creditability	Emission Controlled	Effective Date
Control of NOx Emissions from Industrial Boilers	Creditable	NOx	1-May-05
Consumer Products	Creditable	VOC	1-May-05
Portable Fuel Containers	Creditable	VOC	1-May-05
Architect. & Industrial Maintenance Coatings	Creditable	VOC	1-May-05
Mobile Equipment	Creditable	VOC	1-May-05
Repair and Refinishing	Creditable	VOC	1-May-05
Solvent Cleaning and Drying	Creditable	VOC	1-May-05

3.0 Demonstration of Adequate Progress toward Attainment

3.1 Emission Trends from 1990 to 2002

Under Section 182(a) of the CAAA, Delaware is required to compile comprehensive periodic emission inventories of ozone precursors for 1993, 1996, 1999, 2002 and 2005. These periodic emission inventories cover all sources included in Delaware's 1990 Base Year Emission Inventory and serve to monitor the overall effectiveness of control measures specified in individual rate-of-progress plans as described in the previous section. Delaware submitted to EPA its 1993 periodic emission inventory (PEI) in January 1998, its 1996 PEI in November 1999, its 1999 PEI in June 2002, and its 2002 PEI in June 2004. For the purpose of demonstrating emission trends, a summary of VOC and NO_x emissions (in the unit of TPD) in the 1993 PEI, 1996 PEI, 1999 PEI and 2002 PEI is presented in Table 5.

Table 5. Summary of Delaware 1993, 1996, 1999 and 2002 Emission Inventories.

All Source	1993 PEI		1996 PEI		1999 PEI		2002 PEI	
Total	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x
Emissions	135.80	172.80	101.87	121.55	88.69	117.68	78.12	144.49

Comparison of the emission targets in Table 2 and the PEI emissions in Table 5 indicates that (1) VOC emissions in Delaware's two nonattainment counties are well below the targets since 1996, and in 2002 the PEI VOC emission is 23.42 TPD below the target, (2) NO_x emission is below the 1999 target (the first year when the NO_x target is required), but exceeds the 2002 target by 1.37 TPD. It should be pointed out that this over-target NO_x emission of 1.37 TPD is equivalent to a VOC emission of 1.15 TPD, as explained in Delaware's 2002 Milestone Compliance Demonstration document (Reference 14). In other words, the overall or net emission in 2002, if expressed as a VOC equivalent emission, is still 22.27 TPD (i.e., 23.42 – 1.15 = 22.27) below the required target. Therefore, it can be concluded that, with all controls and rules in Delaware's RPPs being implemented, the overall VOC and NO_x emission trend from 1990 to 2002 in Delaware's NAA is dramatically decreasing and well below the milestone year emission targets required by CAAA.

At the present time (i.e., when this MCR document is being developed), a comparison of the 2005 actual emissions with the 2005 RPP emission targets is not possible because the 2005 emission inventory is not available. However, Delaware believes that with additional controls and rules being implemented in the 2003-2005 period, such as the Federal NO_x Transport SIP Call and those specified in Delaware's Phase II Shortfalls SIP, the decreasing VOC/NO_x emission trends in Delaware will continue and be well below the 2005 emission targets under the 1-hour ozone standard.

3.2 Monitored Ambient Ozone Data under the 1-Hour Standard

As pointed out in the previous subsection, the overall VOC and NO_x emissions in Delaware's NAA has been continuously decreasing since 1990 due to timely implementation of effective control measures over a large variety of emission sources. As a result, the ambient air quality in Delaware regarding ozone has been continuously improved since 1996, the first rate-of-progress milestone year.

The improvement in ozone ambient air quality in Delaware's NAA can be demonstrated by changes in the number of exceedances of the 1-hour ozone standard. A summary of the monitored exceedances since 1997 is presented in Table 6 (the 1996 data were missed). Table 6 indicates that, by the attainment definition of the CAAA, Kent County has been in attainment of the 1-hour ozone standard since 2002. For New Castle County, there has been only one extra exceedance that keeps it in the nonattainment status since 2002.

Table 6. Delaware NAA's 1-Hour Ozone Standard Exceedances after 1996.

County	1996	1997	1998	1999	2000	2001	2002	2003	2004
Kent	*	1	3	1	2	1	0	1	0
New Castle	*	4	3	4	1	0	3	1	0

* The 1996 data were missed.

The improvement in ozone air quality can be also seen from the design value data. A summary of the 1-hour ozone design values for the two nonattainment counties after 1996 is present in Table 7. The design values are based on the ambient ozone concentrations monitored in the 1996-2004 period. These monitored data indicate that the 1-hour ozone design value in Kent County has been below the 1-hour ozone standard in the past three 3-year periods. The 1-hour ozone design value in New Castle County has been slightly above the 1-hour ozone standard, but below the truncation margin (i.e., 0.124 ppm), in the past two 3-year periods. According to CAAA's attainment/nonattainment designation standards and procedures, both Kent and New Castle Counties could be currently given an attainment status.

Table 7. Delaware NAA's 1-Hour Ozone Design Values (ppm).

County	1996-98	1997-99	19982000	19992001	2000-02	2001-03	2002-04
Kent	*	0.124	0.126	0.126	0.117	0.117	0.112
New Castle	*	0.141	0.132	0.130	0.133	0.122	0.122

* The 1996 data were missed.

In summary, the ambient ozone data in Table 6 and 7 have shown that Delaware's NAA has maintained a consistent and adequate progress toward attainment of the 1-hour ozone standard in 2005. With some upcoming controls and rules, especially the Federal NOx SIP Call, it can be reasonably assumed that this adequate progress will continue into 2005 toward the attainment goal of the 1-hour ozone standard. However, it should be noted that while Delaware is on track to attain compliance with the 1-hour ozone standard, and that Delaware is now moving forward with additional reductions to meet the 8-hour ozone standard, significant negative impact from upwind states will prevent Delaware from attainment of the 8-hour ozone standard by 2010. The EPA must mitigate this impact prior to Delaware's 2010 8-hour ozone attainment date.

3.3 Monitored Ambient Ozone Data under the 8-Hour Standard

In April 2004, all three Delaware counties were designated as moderate nonattainment areas under the 8-hour ozone standard (Reference 15). In its final rule for implementing the 8-hour ozone standard, EPA indicates that states can use the mid-course-reviews to ensure that progress is being made consistent with needs for the 8-hour NAAQS (Reference 16). To this end, a summary of the 8-hour ozone design values for Delaware's three counties is presented in Table 8.

Table 8. Delaware NAA's 8-Hour Ozone Design Values (ppm).

County	1996-98	1997-99	1998-2000	1999-2001	2000-02	2001-03	2002-04
Kent	0.096	0.099	0.097	0.093	0.093	0.089	0.084
New Castle	0.096	0.099	0.097	0.097	0.097	0.094	0.089
Sussex	0.097	0.099	0.098	0.095	0.094	0.091	0.085

From Table 8, it can be seen that the 8-hour ozone design values in all three counties exhibit a clear decreasing trend toward attaining the 8-hour standard. This trend is in fact in parallel to the 1-hour ozone design value trend exhibited in Table 7. This fact indicates that the control measures being implemented under the 1-hour ozone standard, and being reviewed in this document (Table 3 and Table 4), have already initiated a progress that is consistent with the needs toward attaining the 8-hour ozone standard.

3.4 Summary and Concluding Remarks

3.4.1 Since 1996, Delaware has implemented numerous control measures over a large variety of VOC and NOx emission sources to meet the CAAA requirements for attaining the 1-hour ozone standard. Those control measures have led to consistent and significant VOC and NOx emission reductions.

3.4.2 Since 1996, as a result of the above emission reductions, Delaware's ambient air quality regarding the 1-hour ozone standard has been continuously improved, and the progress toward attaining the 1-hour ozone standard appears to be adequate.

3.4.3 The control measures under the 1-hour ozone standard have ensured a beginning of adequate progress toward attaining of the 8-hour ozone standard. However, to maintain this progress and ensure attainment of the 8-hour ozone standard, additional control measures are needed in Delaware, and the EPA must cause both the ozone and ozone precursor transport into Delaware, to be mitigated from upwind states before the attainment year of 2010.

3.4.4 The analyses in this document shows that Delaware's control framework, including control measures being implemented and those promulgated but not yet in effect, is adequate under the CAAA requirements toward attaining the 1-hour ozone standard, and provide an adequate basis for the transition to planning for attainment of the 8-hour ozone standard.

4.0 References

1. *Federal Clean Air Act*, 42 U.S.C.A. '7401 et seq., as amended by the Clean Air Act Amendments of 1990, P.L. 101-549, November 15, 1990.
2. *Delaware Phase II Attainment Demonstration for Philadelphia-Wilmington-Trenton Ozone Nonattainment Area*. Delaware Department of Natural Resources and Environmental Control, Dover, Delaware, May 1998, as amended in January 2000, December, 2000, July 2001, and June 2003.
3. *Notice of Proposed Action on Attainment Demonstrations for the 1-Hour National Ambient Air Quality Standard for Ozone*. Federal Register Vol. 64, No. 241, pp 70317-70319, December 16, 1999.
4. *Mid-Course Review Guidance for the 1-Hour Ozone Nonattainment Areas that Rely on Weight-of-Evidence for Attainment Demonstration*. Guidance Memorandum from L.N. Wegman, Director, Air Quality Strategies and Standard Division, and J.D. Mobley, Acting Director, Emission Monitoring and Analysis Division, Office of Air Quality Planning and Standards, US EPA, March 28, 2002.
5. *The 1990 Base Year Ozone SIP Emissions Inventory for VOC, CO, and NOx*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, revised as of May 3, 1994.
6. *Guidance on the Relationship between the 15 Percent Rate-of-Progress Plans and Other Provisions of the Clean Air Act*, EPA-452/R-93-007, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, May 1993.
7. *The Delaware 15% Rate-of-Progress Plan*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, February 1995.
8. *The Delaware 1999 Rate-of-Progress Plan for Kent and New Castle Counties*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, December 1997, as amended in June 1999.
9. *The Delaware 2002 Rate-of-Progress Plan for Kent and New Castle Counties*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, February 2000, as amended in December 2000.
10. *The Delaware 2005 Rate-of-Progress Plan for Kent and New Castle Counties*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, December 2000.
11. *Guidance on the Post-1996 Rate-of-Progress Plan and the Attainment Demonstration*, Ozone/Carbon Monoxide Branch, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, 27711, February 18, 1994.
12. *Regulations Governing the Control of Air Pollution*. Air Quality Management Section, Division of Air and Waste Management, Delaware Department of Natural Resources and Environmental Control, Dover, Delaware.
13. *Measures to Meet EPA Identified Shortfalls in the Delaware Phase II Attainment Demonstration for the Philadelphia-Wilmington-Trenton Ozone Nonattainment Area*. Air Quality Management Section, Division of Air and Waste Management, Delaware Department of Natural Resources and Environmental Control, Dover, Delaware, October, 2001.
14. *Delaware 2002 Milestone Compliance Demonstration for Kent and New Castle Counties*. Air Quality Management Section, Department of Natural Resources and Environmental Control, Dover, Delaware, proposed in November 2004.
15. *Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standard*, US EPA. Federal Register Vol. 69, No. 84, pp 23858-23951, April 30, 2004.
16. *Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard-Phase 1*, US EPA. Federal Register Vol. 69, No. 84, pp 23951-24000, April 30, 2004.