

Region 3 Plan Summary
Kent and Queen Anne's County, Maryland Ozone Maintenance Area

Title: Ozone Maintenance Plan for the Kent and Queen Anne's County, Maryland Ozone Maintenance Area

Federal Register Dates: August 2, 2004, 69 FR 46124 (Proposed rule); October 21, 2004, 69 FR 61766 (Final rule).

EPA Approval/Effective date: November 22, 2004.

State Submittal Date: February 9, 2004.

Affected Areas: Kent and Queen Anne's Counties

Summary of the Plan: MDE developed and implemented the following regulations for Kent and Queen Anne's Counties:

- a. Expansion of RACT rules statewide (COMAR 26.11.19.02G);
- b. Emissions certification requirements (COMAR 26.11.01.05-1);
- c. New source review requirements (COMAR 26.11.17);
- d. Enhanced I/M (COMAR 11.14.08 - jointly adopted by MDE and Motor Vehicle Administration); and
- e. The 1990 base year inventory.

EPA approved the 1990 base year inventory for Kent and Queen Anne's Counties along with inventories for other nonattainment areas on September 27, 1996 (61 FR 50715). MDE has supplied the following inventories to EPA through a combination of written and electronic documentation: the 1993, 1996, and 1999 periodic inventories. Additionally, Maryland exercised its option to voluntarily require Federal reformulated gasoline in all ozone nonattainment areas, including Kent and Queen Anne's Counties (COMAR 03.03.05.01 - Comptroller of the Treasury, Motor Fuel Inspection Regulation). The State has fully approved the VOC and NOx RACT rules for sources in Kent and Queen Anne's Counties.

The status of the above and other relevant SIP is as follows:

Table 1: Status of Maryland SIP Submittals

SIP Revision	Date Submitted	Date Approved
Reformulated Gasoline Opt-in	01/17/92	04/01/92
Statewide RACT Rules - VOC	06/08/93	03/01/96

Statewide RACT Rules - NOx	06/08/93	02/08/01
Emissions Certification Rule	11/13/92	10/12/94
New Source Review Rule	06/08/92	02/12/01
1990 Base Year Inventory	03/24/94	09/27/96
Enhanced I/M Rule (Queen Anne's)	07/12/95	10/29/99
1993 Periodic Inventory*	1995	NA
Stage II Vapor Recovery comparability plan for marginal & attainment areas (includes Kent and Queen Anne's Counties)	11/05/97	12/09/98
1996 Periodic Inventory*	1998/99	NA
Modification of Phase II Attainment Plan for Washington DC-MD-VA. Extension of attainment date to 2005 and revision of MVEB	02/14/00	01/03/01
NOx Reduction and Trading	04/27/00	01/10/01
New Source Review Rule	09/25/00	02/12/01
Modification of Phase II Attainment Plan - Baltimore region, adding Tier 2 standards	12/28/00	07/16/01
1999 Periodic Inventory*	2001	NA

* Only base year inventories are submitted as a full SIP revision. Periodic Emissions Inventory submittals are data submittal only.

Control Measures/Regulations Included As Part of the Plan:

A. Permanent and Enforceable Reductions

A number of permanent and enforceable measures have caused emission reduction and lowered concentrations in Kent and Queen Anne's Counties. These reductions are from all source sectors:

1. Federal Motor Vehicle Control Program (FMVCP) Tier 1 tailpipe standards.
2. Maximum Reid Vapor pressure (RVP) of 7.8 psia for gasoline sold in Maryland in 1992 and beyond.
3. Federal reformulated gasoline program.

4. Study of growth in mobile source emissions using HPMS module of the PPSuites modeling software.
5. New emissions standards for non-road mobile sources: farm equipment, lawn and garden equipment and recreational boats.
6. Additional Tier 3 standards for non-road mobile sources: (1) Tiers 1, 2, and 3 compression-ignition standards for diesel engines greater than 50 horsepower; (2) Tiers 1 and 2 compression-ignition standards for diesel engines greater than 50 horsepower; (3) Phases 1 and 2 of the spark-ignition standards for gasoline engines less than 25 horsepower; and (4) Recreational spark-ignition marine engines controls.
7. Decrease in total emissions from area sources: (1) tank truck unloading; (2) degreasing; (3) architectural surface coatings; and (4) commercial and consumer solvents.
8. Growth in point sources will be controlled through the new source review requirements for offsets.

B. Maintenance Plan for Kent and Queen Anne's Counties

1. Maintenance Plan Requirements

A maintenance plan consists of the following requirements as outlined in section 175A of the CAA: (a) an attainment inventory; (b) a maintenance demonstration; (c) a monitoring network; (d) verification of continued attainment; and (e) a contingency plan.

a. Attainment Inventory

MDE determined that the appropriate attainment inventory year is 2002. That year establishes a reasonable year within the three-year period block of 2001-2003 as a baseline and accounts for reductions attributable to implementation of the CAA requirements to date. This inventory is based on actual emissions for a typical peak ozone season days, which occur during the months of June, July and August.

b. Maintenance Demonstration

MDE's calculations of future emissions of VOCs and NO_x from stationary and mobile sources demonstrate that future emissions will not exceed the level of the attainment inventory (see Tables 2 and 3). Future emissions levels must continue to remain at or below attainment levels for a period of 10 years after EPA redesignates the nonattainment to attainment. MDE's planning horizon for the maintenance plan is 2014.

Table 2: Attainment Year and Projected VOC Emissions Inventories for the Kent and

Queen Anne's Counties Nonattainment Area

Source Category	2002 VOC Emissions (Tons per day)	2014 Projected VOC Emissions (Tons per day)
On-road Mobile	4.91	2.09
Non-road Mobile	5.91	6.59
Area	4.33	5.34
Point	0.12	0.16
Total	15.26	14.18

Table 3: Attainment Year and Projected NOx Emissions Inventories for the Kent and Queen Anne's Counties Nonattainment Area

Source Category	2002 NOx Emissions (Tons per day)	2014 Projected NOx Emissions (Tons per day)
On-road Mobile	7.7	2.92
Non-road Mobile	3.22	4.15
Area	1.46	1.75
Point	0.07	0.09
Total	12.45	8.91

c. Monitoring Network

MDE will continue to operate the current air quality monitor in Millington in accordance with 40 CFR 58.

d. Verification of Continued Attainment

Maryland expects to compile a VOC and NOx inventory for Kent and Queen Anne's Counties every three years. MDE will be able to consult these inventories to make sure that the emissions levels remain at or below attainment inventory levels.

In addition, MDE will compare actual inventories to projected emissions levels. If there are significant differences between actual and projected growth, then MDE will examine its projected methods. If warranted, MDE will revise its methods and again compare inventories. If these inventories, actual or projected, reveal that emissions actually exceed the attainment

inventory, then MDE will consider implementing contingency measures.

Conformity Process/Motor Vehicle Emissions Budget: Kent and Queen Anne’s Counties are not members of any metropolitan planning organization (MPO). Currently, the Maryland Department of Transportation (MDOT) acts on behalf of the counties to include projects in the two counties in the State Transportation Improvement Program (STIP). Under 40 CFR Part 51.448 as part of the SIP process, this maintenance plan will establish an emission budget to be used for transportation conformity purposes. This motor vehicle emissions budget (MVEB) establishes a cap on emissions that cannot be exceeded by predicted highway and transit vehicle emissions. For the period from 2002 until 2014, the MVEB for Kent and Queen Anne’s Counties combined is 4.91 tpd VOC and 7.7 tpd NOx. Some projects may help to reduce mobile source ozone precursor emissions by leading to fewer vehicle trips in Kent and Queen Anne’s Counties. These types of projects include increased commuter bus service and additional park and ride lot spaces.

Contingency Measures: Contingency plan measures to be considered for implementation for Kent and Queen Anne’s Counties include three VOC model rules as additional measures that are currently adopted in Maryland. The rules are part of a Memorandum of Understanding (MOU) and resolutions signed on March 28, 2001 by the states participating in the Ozone Transport Commission (OTC). The VOC model rules have the potential to reduce emissions from consumer products, portable fuel containers, and Architectural and Industrial Maintenance (AIM) coatings.

Table 4: Projected OTC Measure Reductions in 2005 (tons per day)

County	Consumer Products	AIM	Gas Cans (PFC)	Total VOC
Kent	0.03	0.06	0.03	0.12
Queen Anne’s	0.06	0.12	0.03	0.21
Total	0.09	0.18	0.06	0.33

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