AIR QUALITY CONTROL ADVISORY COUNCIL

AGENDA

March 26, 2012
8:15 a.m.

Montgomery Park
Aqua Conference Room, 1st Floor
1800 Washington Boulevard
Baltimore, Maryland 21230

8:15 a.m.	**Welcome and Introductions**	**John Quinn, Advisory Council Chair** **Tad Aburn, Air Director**
8:20 a.m.	**Approval of Meeting Minutes**	**John Quinn**

Action Items for Discussion/Approval:

8:30 a.m.	**New Source Review for $PM_{2.5}$** **COMAR 26.11.01 and 26.11.17**	**Diane Franks**
9:00 a.m.	**Ambient Air Quality Standards** **COMAR 26.11.04**	**Kathleen Perry**

Upcoming Regulations

Transportation Conformity

9:15 a.m. – 9:50 a.m.	**Tad Aburn**
9:50 a.m. – 10:00 a.m.	**Stakeholders**

Stage II Vapor Recovery

10:00 a.m. – 10:30 a.m.	**Tad Aburn**
EPA's Thinking on Repealing Stage II	
10:30 a.m. – 10:35 a.m.	**EPA**
Stakeholder Input	
10:35 a.m. – 10:45 a.m.	**Stakeholders**

Briefings

10:45 a.m.	**Greenhouse Gas Plan**	**Brian Hug**
11:00 a.m.	**Emissions Inventory**	**Roger Thunell**
11:15 a.m.	**Confirm Next Meeting Dates**	**Members**
11:20 a.m.	**Adjourn**	

Department of the Environment

Facts About...

Amendments to COMAR 26.11.01.01, 26.11.17.01, 26.11.17.02
Nonattainment Provisions for Major New Sources and Major Modifications

03/19/2012

Purpose of These Amendments

The primary purpose of these amendments is to incorporate federal standards for the New Source Review (NSR) program for fine particulate matter and its precursors into COMAR. Fine particulate matter is defined as particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers and is referred to as $PM_{2.5}$. Maryland's NAA NSR program is contained in Code of Maryland Regulations (COMAR) 26.11.17, and applies to major stationary sources and major modifications which are major for $PM_{2.5}$ or its precursors at facilities located in Baltimore City, Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, Prince George's and Washington counties.

Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)

These amendments will be submitted to the U.S. Environmental Protection Agency (EPA) for approval as part of Maryland's State Implementation Plan.

Background

On July 18, 1997, the EPA revised the NAAQS for PM to add new standards for fine particles, using $PM_{2.5}$ as the indicator. Health-based (primary) annual and 24-hour standards for $PM_{2.5}$ were established at 15 micrograms per cubic meter ($\mu g/m^3$) and 65 $\mu g/m^3$, respectively (62 FR 38652). At the same time that the primary standards were set, the EPA also established welfare-based (secondary) standards identical to the primary standards.

Epidemiological studies measuring health effects associated with $PM_{2.5}$ have shown a significant correlation between elevated $PM_{2.5}$ levels and premature mortality. Other important effects associated with $PM_{2.5}$ exposure include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease, and children.

The Clean Air Fine Particle Implementation Rule was proposed in the Federal Register on November 1, 2005 and included proposed revisions to the NSR program along with

plans to implement the 1997 $PM_{2.5}$ NAAQS (70 FR 65984). Details included requirements and guidance for State and local air pollution agencies to follow in developing State Implementation Plans (SIPs) and NSR program provisions. On April 25, 2007, the final implementation rule that included all the SIP related provisions was promulgated by the EPA (72 FR 20585).

On October 17, 2006, the EPA revised the primary and secondary NAAQS for $PM_{2.5}$ and PM_{10} (71 FR 61143). In the final rule, the EPA reduced the 24-hour NAAQS for $PM_{2.5}$ to 35 $\mu g/m^3$ and retained the existing annual $PM_{2.5}$ NAAQS of 15 $\mu g/m^3$.

On May 16, 2008, the EPA finalized the NSR provisions of the November 1, 2005 proposed rule, and included details on major source threshold, significant emissions rate, and applicability of NSR to $PM_{2.5}$ precursors ("Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$)" (73 FR 28321)). In this final rule, changes associated with $PM_{2.5}$ and its precursors to NAA NSR and NSR PSD programs were established.

In the development of the federal regulation, the EPA identified sulfur dioxide (SO_2) and nitrogen oxides (NO_x) as precursors for $PM_{2.5}$; the MDE is adopting the same precursors (SO_2 and NO_x) to its nonattainment program for $PM_{2.5}$. Per 73 FR 28321, the final federal rule was effective on July 15, 2008, and the federal NSR requirements were effective on January 1, 2011.

Sources Affected and Location

Section I.A. of 73 FR 28321 identifies the following industries as potentially affected by this new rule: electric services, petroleum refining, industrial organic/inorganic chemicals, natural gas liquids, natural gas transport, pulp and paper mill, automobile manufacturing and pharmaceuticals. Major stationary sources and major modifications located in $PM_{2.5}$ nonattainment areas in Maryland, specifically in Baltimore City, Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, Prince George's and Washington counties, would therefore be subject to the NSR program.

A review of sources located in Maryland and which submitted annual emission certification reports between 2007 and 2010 identified ten (10) sources with emissions greater than 100 tons per year (tpy) $PM_{2.5}$. Evaluating this, these sources, if newly locating to Maryland, would trigger NSR for major stationary sources. This in turn suggests that historically a limited number of sources would have been affected by this regulation.

Of the ten (10) sources reporting greater than 100 tpy $PM_{2.5}$ between the period of 2007 and 2010, seven (7) are electric generating units.

Requirements

These amendments to COMAR 26.11.17, Nonattainment Provisions for Major New Sources and Major Modifications, reflecting the amendments to 40 CFR 51.165 and 40 CFR 51 Appendix S, establish the following:

- SO_2 and NO_x are precursors to $PM_{2.5}$;
- The emission rate applicable to Major Stationary Source threshold for $PM_{2.5}$ and its precursors is 100 tpy; and
- The emission rate applicable to Major Modification for $PM_{2.5}$ is 10 tpy direct $PM_{2.5}$, 40 tpy of SO_2 and 40 tpy of NO_x.

Nonattainment NSR requirements include, but are not limited to:

- Installation of Lowest Achievable Emission Rate (LAER) control technology;
- Offsetting new emissions with creditable emissions reductions;
- Certification that all major sources owned and operated in the State by the same owner are in compliance with all applicable requirements under the Act;
- An alternative siting analysis demonstrating that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification; and
- Public comment on the permit.

Expected Emissions Reductions

These amendments require emission reductions equal to the emissions of the new $PM_{2.5}$ major source or major modification to occur or to have occurred in the past due to the offset requirements. A source must also install controls to comply with the lowest achievable emission rate which may not have occurred in the absence of the NSR program.

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

With the inclusion of $PM_{2.5}$ NAA NSR program into COMAR 26.11.17, there may be an associated cost on affected facilities. At the time that a facility becomes subject to the NSR program as a new major stationary source or major modification in an area of nonattainment, at a minimum the following requirements must be met:

- Installation of Lowest Achievable Emission Rate (LAER) control technology;
- Offsetting new emissions with creditable emissions reductions; and
- An alternative siting analysis demonstrating that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

Each of these requirements have an associated cost, impacted by the size, complexity and other pollutants emitted from the facility.

Additional economic impact on affected sources would be incurred due to costs associated with measuring, recording and reporting requirements.

There is no impact on the Department as a result of these amendments.

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

The federal NAA NSR requirements for $PM_{2.5}$ are contained in 40 CFR 52.24, 40 CFR 51.165 and 40 CFR part 51, appendix S.

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 01 General Administrative Provisions

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

.01 Definitions.

A. In this subtitle, the following terms have the meanings indicated.

B. Terms Defined.

(1) — (6-2) (text unchanged)

(6-3) "Condensable PM" means material that is in vapor phase at stack conditions, but which condenses and/or reacts upon cooling and dilution in the ambient air to form solid or liquid particulate matter immediately after discharge from the stack.

(7) — (14) (text unchanged)

(14-1) "Direct PM" means solid particles, gaseous emissions or liquid droplets emitted from an air emissions source or activity.

(15) — (16) (text unchanged)

(16-1) "Filterable PM" means particulate matter that is directly emitted by a source as a solid or liquid at release conditions and captured on a filter of a stack test train.

(17) — (28) (text unchanged)

(29) "Particulate matter *(PM)*" means any material, except water in uncombined form, that is or has been airborne, and exists as a liquid or a solid at standard conditions*, and includes the following:***[**.**]**

(a) Condensable PM;

(b) Direct PM;

(c) Filterable PM;

(d) Primary PM; and

(e) Secondary PM.

(30) — (32) (text unchanged)

(32-1) "$PM_{2.5}$" means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

(32-2) "$PM_{2.5}$ emissions" means finely divided solid or liquid materials with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers, discharged into the ambient air.

(33) — (37) (text unchanged)

(37-1) "Primary PM" means the sum of filterable PM and condensable PM.

(38) — (41) (text unchanged)

(41-1) "Secondary PM" means particles that form or grow in mass through chemical reactions in the ambient air well after dilution and condensation have occurred.

(42) — (53) (text unchanged)

C. – D. (text unchanged)

.02 — .11 (text unchanged)

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 17 Nonattainment Provisions for Major New Sources and Major Modifications

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102 and 10-103, Annotated Code of Maryland

.01 Definitions.

A. For the purpose of this chapter, the following terms have the meanings indicated. Other applicable definitions may be found in COMAR 26.11.01.01.

B. Terms Defined.

(1) — (15) (text unchanged)

(16) Major Modification.

(a) — (b) (text unchanged)

(c) Any significant emissions increase from any emissions unit or net emissions increase at a major stationary source that is considered significant for SO_2 or NO_x is considered significant for particulate matter $PM_{2.5}$.

[(c)**]** *(d)* A physical change in or a change in the method of operation does not include:

(i) — (vii) (text unchanged)

[(d)**]** *(e)* This definition does not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements for a PAL.

(17) Major Stationary Source.

(a) — (c) (text unchanged)

(d) A major stationary source that is major for SO_2 or NO_x is considered major for $PM_{2.5}$.

[(d)**]***(e)* In determining if a source is a major stationary source, fugitive emissions shall be included if the source belongs to one of the categories of stationary sources listed in 40 CFR §51.165(a)(1)(iv)(C).

(18) — (23) (text unchanged)

[(24) "Regulated NSR pollutant" means any pollutant for which a national ambient air quality standard has been promulgated and any pollutant that is a constituent or precursor of the pollutant for which there is an ambient air quality standard, provided that the constituent or precursor may only be regulated under this chapter as part of regulation of the pollutant.**]**

(24) Regulated NSR Pollutant.

(a)"Regulated NSR pollutant" means any pollutant for which a national ambient air quality standard has been promulgated and any pollutant that is a constituent or precursor of the pollutant for which there is an ambient air quality standard, provided that the constituent or precursor may only be regulated under this chapter as part of the regulation of the pollutant.

(b) "Regulated NSR pollutant" includes:

(i) Carbon monoxide (CO);

(ii) Lead (Pb);

(iii) Nitrogen dioxide (NO_2);

(iv) Sulfur dioxide (SO_2);

(v) PM_{10};

(vi) $PM_{2.5}$;

(vii) Ozone (O_3);

(viii) Nitrogen oxides (NO_x); and

(ix) Volatile organic compounds (VOCs).

(25) (text unchanged)

[(26) "Significant" means, in reference to a net emissions increase, a significant emissions increase or the potential of a source to emit a regulated NSR pollutant, or a rate of emissions that would equal or exceed any of the following rates:

(a) For VOC or NO_x:

(i) 25 tons/year in Baltimore City or Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, or Prince George's counties; or

(ii) 40 tons/year in Allegany, Caroline, Dorchester, Garrett, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, and Worcester counties.

(b) For all other regulated NSR pollutants:

(i) Carbon monoxide—100 tons per year;

(ii) Sulfur dioxide—40 tons per year;

(iii) Lead—0.6 tons per year; and

(iv) PM_{10}—15 tons per year. **]**

(26) "Significant" means, in reference to a net emissions increase, a significant emissions increase or the potential of a source to emit a regulated NSR pollutant, or a rate of emissions that would equal or exceed any of the following rates:

(a) Volatile organic compounds or nitrogen oxides: 25 tons per year (tpy) in Baltimore City or Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, or Prince George's counties;

(b) Volatile organic compounds or nitrogen oxides: 40 tpy in Allegany, Caroline, Dorchester, Garrett, Kent, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, and Worcester counties.

(c) Direct $PM_{2.5}$ emissions: 10 tpy;

(d) Sulfur dioxide: 40 tpy;

(e) Lead: 0.6 tpy;

(f) PM_{10}: 15 tpy; and

(g) Carbon monoxide: 100 tpy.

(27) (text unchanged)

.02 Applicability.

[A. This chapter applies Statewide to:**]**

A. This chapter applies Statewide, unless specified otherwise throughout this Chapter, to:

(1) New major stationary sources and major modifications that are major for VOC or NO_x;

(2) New major stationary sources and major modifications that are major for $PM_{2.5}$ and its precursors, SO_2 and NO_x, and are located in Baltimore City or Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery, Prince George's or Washington counties;

[(2)]*(3)*—[(3)]*(4)* (text unchanged)

B. A person may apply for and obtain a permit to construct a new major stationary source or a major modification at an existing major stationary source [in an area designated as nonattainment for a particular pollutant or, as applicable, within the Ozone Transport Region,] *after meeting one or more conditions of §§A(1) through (4) of this regulation* if all of the provisions in this chapter are met.

C. Major stationary sources and major modifications, whether located in attainment or nonattainment areas, may also be subject to the Prevention of Significant Deterioration requirements in COMAR 26.11.06.14.

[C]*D.* (text unchanged)

[D. Major stationary sources that are located in ozone or NO_x attainment areas may also be subject to the Prevention of Significant Deterioration requirements in COMAR 26.11.06.14.]

E. (text unchanged)

F. Major Modification.

(1) A project is a major modification for a regulated NSR pollutant if it causes a significant emissions increase and a significant net emissions increase. The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

(2) Applicability Tests.

(a) Actual-to-Projected-Actual Applicability Test for Projects That Involve Only Existing Emissions Units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions and the baseline actual emissions, for each existing emissions unit, equals or exceeds the significant amount for that pollutant.

(b) Actual-to-Potential Test for Projects That Involve Only Construction of a New Emissions Unit or Units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit from each new emissions unit following completion of the project and the baseline actual emissions of these units before the project, equals or exceeds the significant amount for that pollutant.

(c) Hybrid Test for Projects That Involve Multiple Types of Emissions Units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in §F(2)(a) and (b) of this regulation, as applicable, with respect to each emissions unit, for each type of emissions unit, equals or exceeds the significant amount for that pollutant.

G.—I. (text unchanged)

.03 — .09 (text unchanged)

Department of the Environment

Facts About...

Amendments to COMAR 26.11.04 Ambient Air Quality Standards

3-19-12

Purpose of Amendment

The purpose of this action is to adopt the following revised National Ambient Air Quality Standards (NAAQS) as required by Section 2-302 (c) of the Environment Article of the Annotated Code of Maryland:

- the 2006 revised NAAQS for **particulate matter (PM)** and update the definitions, reference conditions, and methods of measurement as specified in 40 CFR Parts 50, 53, and 58.
- the 2010 revised NAAQS for **sulfur dioxide (SO_2)** and update the definitions, reference conditions, and methods of measurement as specified in 40 CFR Parts 50, 53 and 58
- the 2008 NAAQS for **ground-level ozone (O_3)** and update the definitions, reference conditions, and methods of measurement as specified in 40 CFR Parts 50 and 58.
- the 2010 revised NAAQS for **nitrogen dioxide (NO_2)** and update the definitions, reference conditions, and methods of measurement as specified in 40 CFR Parts 50 and 58.
- the 2008 NAAQS for **lead (Pb)** and update the definitions, reference conditions, and methods of measurement as specified in 40 CFR Parts 50, 51, 53 and 58. .

Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)

These amendments will be submitted to EPA for approval as part of Maryland's State Implementation Plan.

Background

The Clean Air Act directs EPA to set NAAQS for pollutants and requires EPA to review the standards once every five years to determine whether revisions to the standards are appropriate. Section 2-302 (c) of the Environment Article of the Maryland Code states that the Department shall set ambient air quality standards for pollutants that are identical to national primary or secondary ambient air quality standards set by the federal government.

Particulate Matter

On October 17, 2006, EPA's Final Rule was published (71 FR 61143) for particulate matter. EPA's revised standards addressed fine particulate matter ($PM_{2.5}$) and course particulate matter (PM_{10}), which have aerodynamic diameters of less than or equal to a nominal 2.5 and 10 micrometers, respectively. For $PM_{2.5}$, the 2006 standards tightened the 24-hour fine particle standard (established in 1997) from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$. EPA retained the annual fine particle standard of 15 $\mu g/m^3$. EPA also retained the existing 24-hour PM_{10} standard of 150 $\mu g/m^3$, and revoked the annual PM_{10} standard due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution.

Sulfur Dioxide

On June 22, 2010, EPA's Final Rule was published revising the primary (health-based) SO_2 standard (75FR35519). The rule established a new 1-hour standard at a level of 75 parts per billion (ppb). The new 1-hour standard will protect public health by reducing people's exposure to high short-term (5-minutes to 24-hours) concentrations of SO_2. The standard addresses gaseous SOx only, meaning SO_2, particulate forms of SOx are addressed by the PM standard.

EPA revoked the 24-hour standard of 140 ppb and the annual standard of 30 ppb because these standards do not add additional public health protection given the new 1-hour standard at 75 ppb.

Ozone

On March 27, 2008 EPA's Final Rule was published (73:16435) which significantly strengthened its NAAQS for ground-level ozone, the primary component of smog. EPA revised the 8-hour "primary" ozone standard, designed to protect public health, to a level of 0.075 parts per million (ppm). The previous standard, set in 1997, was 0.08 ppm.

EPA also strengthened the secondary 8-hour ozone standard to the level of 0.075 ppm making it identical to the revised primary standard to protect public welfare. This action was taken because ozone air quality concentrations in many areas of the country are high enough to harm sensitive vegetation and ecosystems. Repeated exposure to ozone leads to reduced growth and productivity, increased susceptibility to disease and pests, and damaged foliage.

EPA estimated that the revised standards will yield health benefits valued between $2 billion and $17 billion. Those benefits include preventing cases of bronchitis, aggravated asthma, hospital and emergency room visits, nonfatal heart attacks and premature death, among others.

Nitrogen Dioxide

On February 9, 2010, EPA's Final Rule was published (FR 75:06473) setting a 1-hour NO_2 standard at the level of 100 parts per billion (ppb). Prior to the Final Rule there was only an annual standard. The new standard will protect against adverse health effects associated with exposure to short-term peak concentrations of NO_2 – which primarily occur near major roads. The standard will limit community-wide NO_2 concentrations to levels below those that have been linked to respiratory-related emergency department visits and hospital admissions.

EPA retained, with no change, the annual average NO_2 standard of 53 ppb.

EPA did not change the secondary NO_2 standard, set to protect public welfare. EPA is considering the need for changes to the secondary standard under a separate review.

Lead

On November 12, 2008, EPA's Final Rule was published (FR 73:66963) revising the level of the primary lead standard from the 1978 lead standard of 1.5 micrograms per cubic meter (μg/m3) to 0.15 μg/m3, measured as the concentration of lead in total suspended particles (TSP). EPA determined that the 1978 standard is not sufficient to protect public health with an adequate margin of safety. The revised standards are 10 times tighter than the 1978 standards and will improve health protection for at-risk groups, especially children.

Sources Affected and Location

These tighter NAAQS have the potential to require emissions controls upon area, non-road, mobile, and point sources throughout the State of Maryland.

Requirements

Particulate Matter

State Implementation Plans (SIPs) to meet the revised 24-hour $PM_{2.5}$ standard are not due until December 2012. EPA, in conjunction with the states, will be evaluating the most appropriate strategies and policies necessary to reach attainment by April 2015.

Sulfur Dioxide

States need to make adjustments to the existing monitoring network in order to ensure that monitors meeting the network design regulations for the new 1-hour SO_2 standard are sited and operational by January 1, 2013.

Ozone

In addition to changing the level of the standards from 0.08 ppm to 0.075 ppm, EPA is now specifying the level of the standard to the third decimal. This means that the standard has effectively changed from 0.084 ppm to 0.075 ppm, since 0.08 ppm was equivalent to 0.084 ppm with rounding. An area will meet the revised standards if the three-year average of the annual fourth-highest daily maximum 8-hour average at every ozone monitor is less than or equal to the level of the standard (i.e., 0.075 ppm).

Nitrogen Dioxide

To determine compliance with the new standard, EPA established new ambient air monitoring and reporting requirements for NO_2. Maryland must install two more permanent, near-road NO_2 monitors by January 1, 2013. One of these additional monitors is to be in the Baltimore area and one is to be in the Maryland portion of the Washington metropolitan area.

Lead

Under the new standard Maryland is required to install lead monitors in the Baltimore and Washington metro area. Should these monitors indicate non-attainment of the standard, Maryland will be required to submit a SIP demonstrating a plan to reach attainment.

Expected Emissions Reductions

Emission reductions for the revised standards cannot be estimated at this time. EPA and the states will be evaluating/implementing the most appropriate strategies and policies to reach specific attainment dates for each standard.

Economic Impact on Affected Sources and the Department

Particulate Matter Standard

EPA estimated the cost of meeting the revised 24-hour $PM_{2.5}$ standards at $5.4 billion in 2020. This estimate includes the costs of purchasing and installing controls for reducing pollution to meet the standard.

Sulfur Dioxide

EPA estimated the cost of meeting the NAAQS for sulfur dioxide at $15,000 per ton of emissions, but states that this estimate does not account for more significant reductions necessary in some areas.

Nitrogen Dioxide

EPA estimated that the annualized average cost of controls to attain the NO_2 NAAQS would be in the range of $3,000 to $6,000 per ton.

Ozone Standard

To estimate the costs of meeting a standard, EPA uses several peer-reviewed approaches for modeling the cost of using both existing controls and controls that may be developed in the future for reducing NOx and VOCs. EPA estimated that costs of implementing a standard of 0.075 ppm would range from a low of $7.6 billion to a high of $8.8 billion annually in 2020.

Lead

EPA estimated annual costs of implementing the standards at approximately $150 million to $2.8 billion, by analyzing the cost of using both existing controls and controls that may be developed in the future for reducing lead from industrial sources.

Economic Impact on Small Businesses

As a result of these standards, states may be required to implement control strategies that could impact small businesses. The exact impact, however, is indeterminate at this time.

Equivalent Federal Standards to this Proposed Regulatory Action

Maryland is adopting the federal NAAQS for ozone, particulate matter, sulfur oxides, nitrogen dioxide, and lead.

- Particulate Matter and Sulfur Dioxide: 40 CFR Part 50, 53, and 58.
- Ozone: 40 CFR 50.15
- Nitrogen Dioxide: 40 CFR Parts 50 and 58
- Lead: CFR 40 Part 50.16

Chapter 04 Ambient Air Quality Standards

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103,

Annotated Code of Maryland

.03 Definitions, Reference Conditions, and Methods of Measurement.

For the purposes of this chapter, the definitions, reference conditions, and methods of measurement are those specified in 40 CFR Parts 50, 53, and 58, [2003 Edition] *as amended*.

.04 Particulate Matter.

A. The primary and secondary ambient air quality standards for fine particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$) are:

(1) 15.0 micrograms per cubic meter—annual arithmetic mean *concentration*; and

(2) **[**65.0**]** *35.0* micrograms per cubic meter—24-hour average concentration.

B. The primary and secondary ambient air quality **[**standards**]** *standard* for particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}) **[**are**]** *is* **[**:**]**

[(1) 50 micrograms per cubic meter—annual arithmetic mean; and**]**

[(2)**]** 150 micrograms per cubic meter—24-hour average concentration.

.05 Sulfur Oxides.

A. The primary *1-hour* ambient air quality **[**standards**]** *standard* for sulfur oxides, measured as sulfur dioxide *(SO_2)* **[**are**]** *is 75 parts per billion*.

[(1) 80 micrograms per cubic meter (0.03 parts per million)—annual arithmetic mean;

(2) 365 micrograms per cubic meter (0.140 parts per million)—maximum 24-hour concentration not to be exceeded more than once per year.**]**

B. (text unchanged)

.07 Ozone

[A. The 1-hour primary and secondary ambient air quality standard for ozone is 0.12 parts per million (235 micrograms per cubic meter).]

[B.**]** The 8-hour primary and secondary ambient air quality standard for ozone is [0.08] *0.075* parts per million, daily maximum 8-hour average.

[C. The 1-hour ambient air quality standard for ozone set forth in §A of this regulation no longer applies to an area after June 15, 2005, or on such later date as the revocation of the 1-hour standard is effective.]

.08 Nitrogen Dioxide.

[The primary and secondary ambient air quality standard for nitrogen dioxide is 100 micrograms per cubic meter (0.05 parts per million)—annual arithmetic mean.**]**

A. The primary and secondary annual ambient air quality standard for oxides of nitrogen is 53 parts per billion, annual average concentration, measured in the ambient air as nitrogen dioxide.

B. The primary 1-hour ambient air quality standard for oxides of nitrogen is 100 parts per billion, 1-hour average concentration, measured in the ambient air as nitrogen dioxide.

.09 Lead.

The primary and secondary ambient air quality standards for lead *and its compounds* are **[**1.5**]** *0.15* micrograms per cubic meter — **[**maximum arithmetic mean averaged over a calendar quarter**]** *arithmetic mean concentration of a 3-month rolling average over a 3 year span*.

ROBERT M. SUMMERS, Ph.D
Acting Secretary of the Environment