

Title 26 DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Notice of Proposed Action

[13-096-P]

The Secretary of the Environment proposes to amend:

(1) Regulation .01 under **COMAR 26.11.01 General Administrative Provisions**; and

(2) Regulation .14 under **COMAR 26.11.06 General Emission Standards, Prohibitions, and Restrictions**.

Statement of Purpose

The purpose of this action is to incorporate updated federal standards for the New Source Review (NSR) Prevention of Significant Deterioration (PSD) program. This amendment will provide that future amendments to the federal PSD program will be automatically included in Maryland regulations. This incorporation by reference will add provisions for fine particulate matter and its precursors, provisions to defer inclusion of sources of biogenic emissions under PSD and removes certain grandfathering provisions.

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 (µg/m³) and 65 µg/m³, 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. On October 17, 2006, the EPA revised the primary and secondary NAAQS for PM_{2.5} and PM₁₀ (71 FR 61143). In the final rule, the EPA reduced the 24-hour NAAQS for PM_{2.5} to 35 µg/m³ and retained the existing annual PM_{2.5} NAAQS of 15 µg/m³.

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.

EPA has finalized a number of amendments to the PSD requirements during 2010, 2011, and 2012. These amendments include the following:

March 12, 2012 - This proposed rule would clarify that condensable particulate matter should be included as part of the emissions measurements for regulation of PM_{2.5} and PM₁₀. The proposal would remove the inadvertent requirement in the 2008 PM_{2.5} NSR Implementation Rule, that measurements of condensable particulate matter be included as part of the measurement and regulation of much larger particles included as "particulate matter emissions."

May 10, 2011 - EPA issues a final rule to repeal the grandfather provision for PM_{2.5} contained in the federal PSD permit program.

January 12, 2011 - EPA announces its plan to defer, for three years, greenhouse gas (GHG) permitting requirements for carbon dioxide (CO₂) emissions from biomass-fired and other biogenic sources.

On December 23, 2010, the U.S. Environmental Protection Agency (EPA) issued a series of rules that put the necessary regulatory framework in place to ensure that 1) industrial facilities can get Clean Air Act permits covering their greenhouse gas (GHG) emissions when needed and 2) facilities emitting GHGs at levels below those established in the Tailoring Rule do not need to obtain Clean Air Act permits.

September 29, 2010 - EPA has established key components for making PSD permitting determinations for fine particle pollution - increments, significant impact levels (SILs), and a significant monitoring concentration (SMC).

Sources Affected and Location

The NSR PSD program applies to new major sources locating in attainment areas and major modifications that occur in attainment areas. The program also applies in nonattainment areas. In nonattainment areas, new major sources or major modifications of regulated NSR pollutants for which the area is not nonattainment must meet PSD requirements.

Requirements

Specific Requirements for PM_{2.5}

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:

- SO₂ 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 SO₂ and 40 tpy of NO_x.

General Requirements for PSD

Prevention of Significant Deterioration (PSD) applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is in attainment or unclassifiable with the National Ambient Air Quality Standards (NAAQS). It requires the following:

1. installation of the "Best Available Control Technology (BACT)";
2. an air quality analysis;
3. an additional impacts analysis; and
4. public involvement.

Best Available Control Technology (BACT)

BACT is an emissions limitation which is based on the maximum degree of control that can be achieved. It is a case-by-case decision that considers energy, environmental, and economic impact. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible.

The RACT/BACT/LAER Clearinghouse (RBLC) database contains information on what has been required as BACT in air permits.

Air Quality Analysis

The main purpose of the air quality analysis is to demonstrate that new emissions emitted from a proposed major stationary source or major modification, in conjunction with other applicable emissions

increases and decreases from existing sources, will not cause or contribute to a violation of any applicable NAAQS or PSD increment.

Generally, the analysis will involve (1) an assessment of existing air quality, which may include ambient monitoring data and air quality dispersion modeling results, and (2) predictions, using dispersion modeling, of ambient concentrations that will result from the applicant's proposed project and future growth associated with the project.

Class I areas are areas of special national or regional natural, scenic, recreational, or historic value for which the PSD regulations provide special protection. The Federal Land Manager (FLM), including the State or Indian governing body, where applicable, is responsible for defining specific Air Quality Related Values (AQRV's) for an area and for establishing the criteria to determine an adverse impact on the AQRV's. If a FLM determines that a source will adversely impact AQRV's in a Class I area, the FLM may recommend that the permitting agency deny issuance of the permit, even in cases where no applicable increments would be exceeded. However, the permitting authority makes the final decision to issue or deny the permit.

PSD Increment

PSD increment is the amount of pollution an area is allowed to increase. PSD increments prevent the air quality in clean areas from deteriorating to the level set by the NAAQS. The NAAQS is a maximum allowable concentration "ceiling." A PSD increment, on the other hand, is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and, in general, is the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. It is important to note, however, that the air quality cannot deteriorate beyond the concentration allowed by the applicable NAAQS, even if not all of the PSD increment is consumed.

Additional Impacts Analysis

The additional impacts analysis assesses the impacts of air, ground and water pollution on soils, vegetation, and visibility caused by any increase in emissions of any regulated pollutant from the source or modification under review, and from associated growth. Associated growth is industrial, commercial, and residential growth that will occur in the area due to the source.

Expected Emissions Reductions

This incorporation by reference requires affected major sources of emissions to install Best Available Control Technology (BACT) which may not have occurred in the absence of this program.

Comparison to Federal Standards

There is a corresponding federal standard to this proposed action, but the proposed action is not more restrictive or stringent.

Estimate of Economic Impact

The proposed action has no economic impact.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Impact on Individuals with Disabilities

The proposed action has an impact on individuals with disabilities as follows:

This action will have a positive impact on individuals with disabilities involving respiratory problems by reducing air pollutants that contribute to disease.

Opportunity for Public Comment

The Department of the Environment will hold a public hearing on the proposed action on May 7, 2013, at 10 a.m., at the Department of the Environment, 1800 Washington Boulevard, 1st Floor Conference Rooms, Baltimore, Maryland 21230-1720. Interested persons are invited to attend and express their views. Comments may be sent to Deborah Rabin, Regulations Coordinator, Air and Radiation Management Administration, Department of the Environment, 1800 Washington Boulevard, Suite 730, Baltimore, Maryland 21230-1720, or emailed to drabin@mde.state.md.us. Comments must be received not later than May 7, 2013, or be submitted at the hearing. For more information, call Deborah Rabin at (410) 537-3240.

Copies of the proposed action and supporting documents are available for review at the following locations: The Air and Radiation Management Administration; regional offices of the Department in Cumberland and Salisburly; all local air quality control offices; and local health departments in those counties not having separate air quality control offices.

Anyone needing special accommodations at the public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

26.11.01 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. (text unchanged)

B. Terms Defined.

(1) — (36) (text unchanged)

(37) "Prevention of Significant Deterioration (PSD) source" means any new or modified source subject to the provisions of 40 CFR §52.21, as [published in the 2009 edition, as amended by the "Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule" (75 FR 31514) and the "Deferral for CO₂ Emissions from Bioenergy and Other Biogenic Sources under the Prevention of Significant Deterioration and Title V Programs" (76 FR 43490), including:] *amended.*

[(a) Any of the following sources which emit, or have the potential to emit, 100 tons per year of any air pollutant, except for greenhouse gases, regulated under the federal Clean Air Act Amendments of 1977 (42 U.S.C. §7401 et seq.):

- (i) Fossil fuel-fired steam electric plants of more than 250 million Btu per hour heat input;
- (ii) Coal cleaning plants (with thermal dryers);
- (iii) Kraft pulp mills;
- (iv) Portland cement plants;
- (v) Primary zinc smelters;
- (vi) Iron and steel mill plants;
- (vii) Primary aluminum ore reduction plants;
- (viii) Primary copper smelters;
- (ix) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (x) Hydrofluoric, sulfuric, and nitric acid plants;
- (xi) Petroleum refineries;
- (xii) Lime plants;
- (xiii) Phosphate rock processing plants;
- (xiv) Coke oven batteries;
- (xv) Sulfur recovery plants;
- (xvi) Carbon black plants (furnace process);
- (xvii) Primary lead smelters;
- (xviii) Fuel conversion plants;
- (xix) Sintering plants;
- (xx) Secondary metal production plants;

- (xxi) Chemical process plants;
- (xxii) Fossil fuel boilers (or combination of them) totaling more than 250 million Btu per hour heat input;
- (xxiii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (xxiv) Taconite ore processing plants;
- (xxv) Glass fiber processing plants;
- (xxvi) Charcoal production plants;
- (b) Any other source which emits or has the potential to emit 250 tons per year or more of any air pollutant, except for greenhouse gases, regulated under the Federal Clean Air Act (42 U.S.C. 7401 et seq.);
- (c) Beginning January 2, 2011, sources of GHGs to which 40 CFR 52.21(b)(49)(iv) applies; and
- (d) Beginning July 1, 2011, sources of GHGs to which 40 CFR 52.21(b)(49)(v) applies.]
- (38) — (53) (text unchanged)

26.11.06 General Emission Standards, Prohibitions, and Restrictions

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

.14 Control of PSD Sources.

- A. (text unchanged)
- B. General Requirements.

(1) A person may not construct, modify, or operate, or cause to be constructed, modified, or operated, a Prevention of Significant Deterioration (PSD) source, as defined in COMAR 26.11.01.01B(37), which will result in violation of any provision of 40 CFR §52.21, as [published in the 2009 edition, as amended by the “Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule” (75 FR 31514) and the “Deferral for CO₂ Emissions from Bioenergy and Other Biogenic Sources under the Prevention of Significant Deterioration and Title V Programs” (76 FR 43490)] *amended*.

(2) (text unchanged)

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

Subtitle 11 AIR QUALITY

Notice of Proposed Action

[13-095-P]

The Secretary of the Environment proposes to amend:

- (1) Regulation .01 under **COMAR 26.11.01 General Administrative Provisions**; and
- (2) Regulations .01 and .02 under **COMAR 26.11.17 Nonattainment Provisions for Major New Sources and Major Modifications**.

Statement of Purpose

The purpose of this action is to incorporate federal standards for the New Source Review (NSR) program for fine particulate matter and its precursors into the Code of Maryland Regulations (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 nonattainment area (NAA) NSR program is contained in 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.

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

Background

On July 18, 1997, the EPA revised the National Ambient Air Quality Standards (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 (µg/m³) and 65 µg/m³, 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 PM₁₀ (71 FR 61143). In the final rule, the EPA reduced the 24-hour NAAQS for PM_{2.5} to 35 µg/m³ and retained the existing annual PM_{2.5} NAAQS of 15 µg/m³.

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 nonattainment area (NAA) NSR and NSR prevention of significant deterioration (PSD) programs were established.

In the development of the federal regulation, the EPA identified sulfur dioxide (SO₂) and nitrogen oxides (NO_x) as precursors for PM_{2.5}; the MDE is adopting the same precursors (SO₂ 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