



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R03-OAR-2017-0423; FRL-9980-30-Region 3]

**Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania;
Base Year Emissions Inventories for the Lebanon and Delaware County Nonattainment
Areas for the 2012 Annual Fine Particulate Matter National Ambient Air Quality Standard**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving two state implementation plan (SIP) revisions submitted by the Commonwealth of Pennsylvania. These revisions pertain to base year emission inventories for the Lebanon County and Delaware County nonattainment areas for the 2012 annual fine particulate national ambient air quality standard (NAAQS). The Clean Air Act (CAA) requires states to submit a comprehensive, accurate and current inventory of actual emissions from all sources of direct and secondary ambient fine particulate matter less than 2.5 microns in diameter (PM_{2.5}) for all PM_{2.5} nonattainment areas. EPA is approving these revisions in accordance with the requirements under Title I of the CAA.

DATES: This final rule is effective on **[insert date 30 days after date of publication in the Federal Register]**.

ADDRESSES: EPA has established a docket for this action under Docket ID Number EPA-R03-OAR-2017-0423. All documents in the docket are listed on the <http://www.regulations.gov> website. Although listed in the index, some information is not publicly available, e.g.,

confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available through <http://www.regulations.gov>, or please contact the person identified in the “For Further Information Contact” section for additional availability information.

FOR FURTHER INFORMATION CONTACT: Brian Rehn, (215) 814-2176, or by e-mail at rehn.brian@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background

Ambient air contains a variety of pollutants, including particulate matter (PM). Airborne PM can be comprised of either solid or liquid particles, or a complex mixture of particles in both solid and liquid form. The most common airborne PM constituents include sulfate (SO₄); nitrate (NO₃); ammonium; elemental carbon; organic mass; and inorganic material, referred to as “crystal” material, which can include metals, dust, soil and other trace elements. PM_{2.5} includes “primary” particles, which are directly emitted into the air by a variety of sources, and “secondary” particles, that are formed in the atmosphere as a result of reactions between precursor pollutants.

Human health effects associated with long- or short-term exposure to PM_{2.5} include premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions and emergency room visits) and development of chronic respiratory disease.

On December 14, 2012, EPA revised the primary annual PM_{2.5} NAAQS to provide increased

protection of public health from fine particle pollution (the 2012 annual PM_{2.5} NAAQS). 78 FR 3086 (January 15, 2013). In that action, EPA strengthened the primary annual PM_{2.5} standard, lowering the level from 15.0 micrograms per cubic meter (µg/m³) to 12.0 mg/m³. The 2012 annual PM_{2.5} NAAQS is attained when the 3-year average of the annual arithmetic mean monitored values does not exceed 12.0 mg/m³. *See* 40 CFR 50.18.

On January 15, 2015 (80 FR 2206), EPA published area designations, as required by CAA section 107(d)(1), for the 2012 annual PM_{2.5} NAAQS. Therein, EPA identified as “nonattainment” areas that were then violating the 2012 annual PM_{2.5} NAAQS based on quality-assured, certified air quality monitoring data from 2011 to 2013 or that contributed to a violation of the NAAQS in a nearby area. EPA designated the Delaware County and Lebanon County nonattainment areas as moderate nonattainment for the 2012 annual PM_{2.5} NAAQS, effective April 15, 2015. *See* 40 CFR 81.339.

Under section 172(c)(3) of the CAA, Pennsylvania is required to submit a comprehensive, accurate, and current inventory of actual emissions from all sources (point, nonpoint, nonroad, and onroad) of the relevant pollutants, in each nonattainment area. EPA’s “Provisions for Implementation of the PM_{2.5} NAAQS” (or PM implementation rule), at 40 CFR part 51, subpart Z, sets criteria for which pollutants are to be included by states in the required base year emission inventory. This PM inventory must include direct PM_{2.5} emissions, separately reported PM_{2.5} filterable and condensable emissions, and emissions of the PM_{2.5} precursors. 40 CFR 51.1008.

II. Summary of SIP Revision and EPA Analysis

On May 5, 2017, the Pennsylvania Department of Environmental Protection (PADEP) submitted a formal SIP revision consisting of the 2011 base year emissions inventory for the Delaware

County nonattainment area for the 2012 annual PM_{2.5} NAAQS. On September 25, 2017, PADEP submitted to EPA a formal revision consisting of the 2011 base year emission inventory for the Lebanon County nonattainment area for the 2012 annual PM_{2.5} NAAQS.

The base year emissions inventories prepared by PADEP use 2011 as the base year for planning purposes. They include direct PM_{2.5} emissions, as well as PM_{2.5} filterable and condensable emissions, and emissions of the scientific PM_{2.5} precursors. PADEP reported actual annual emissions of directly-emitted PM_{2.5} emissions (PM_{2.5} PRI), as well as separately reported PM_{2.5} filterable and condensable particulate matter (PM CON) emissions. PM CON is matter that exists as a vapor at stack conditions, but becomes a solid or liquid upon exit of the stack. PADEP's base year inventories for these areas also include directly-emitted, primary particulate matter less than 10 microns in diameter (PM₁₀ PRI), emissions precursors that contribute to secondary formation of PM_{2.5}, including sulfur dioxides (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), and ammonia (NH₃) emissions.

Table 1 summarizes the 2011 emission inventory by source sector for each pollutant or pollutant precursor for the Delaware County 2012 annual PM_{2.5} nonattainment area, expressed as annual emissions in tons per year (tpy).

Table 1. Summary of 2011 Emissions of PM_{2.5}, PM₁₀, and PM_{2.5} Precursors for the Delaware County 2012 Annual PM_{2.5} NAAQS Nonattainment Area

Source Sector	Annual Emissions (tpy)					
	PM ₁₀ Primary ¹	PM _{2.5} Primary ²	SO ₂	NO _x	VOC	NH ₃
Stationary Point Sources ³	1,671.81	1,496.70	4,975.94	7,641.98	1,393.18	217.50
Area Sources ⁴	2,502.73	998.82	2,055.13	2,875.85	6,779.07	206.47
Onroad Mobile Sources ⁵	328.61	179.01	31.05	5,643.30	2,999.73	130.41

Nonroad Mobile Sources	128.87	121.78	3.498	1,123.96	1,787.97	1.759
Total Emissions	4,632.02	2,796.30	7,065.62	17,285.08	12,959.95	556.14

¹ Primary PM particles are emitted directly to the air from a source and include both filterable particulate and condensable components. Condensable PM (PM CON) exists as a vapor at stack conditions but exists as a solid or liquid once it exits the stack and is cooled by ambient air. All PM CON is smaller than 2.5 microns in diameter and, therefore, represents condensable matter for both PM₁₀ and PM_{2.5}. PM₁₀ Primary is the sum of filterable PM₁₀ (PM₁₀ FIL) and PM CON.

² PM_{2.5} Primary is the sum of filterable PM_{2.5} and PM CON.

³ The PM₁₀ Primary value for stationary point sources includes a condensable component of 656.39 tpy. Because PM₁₀ includes PM_{2.5} by definition, the PM_{2.5} Primary value for stationary point sources includes the same condensable component of 656.39 tpy.

⁴ PM₁₀ Primary includes PM₁₀ FIL and PM CON. PM_{2.5} Primary includes PM_{2.5} FIL and PM CON. Condensable emissions for the area source sector are a subset of PM Primary emissions, or 164.93 tpy.

⁵ Condensable emissions for the onroad and nonroad sectors are not separately calculated by the MOVES model, and are therefore included within the PM₁₀ Primary and PM_{2.5} Primary values of this table.

Table 2 summarizes the 2011 emission inventory by source sector for each pollutant or pollutant precursor for the Lebanon County 2012 annual PM_{2.5} nonattainment area, expressed as annual emissions in tons per year.

Table 2. Summary of 2011 Emissions of PM_{2.5}, PM₁₀, and PM_{2.5} Precursors for the Lebanon County 2012 Annual PM_{2.5} NAAQS Nonattainment Area

Source Sector	Annual Emissions (tpy)					
	PM ₁₀ Primary ¹	PM _{2.5} Primary ²	SO ₂	NO _x	VOC	NH ₃
Stationary Point Sources ³	136.64	80.68	278.53	690.30	182.37	17.44
Area Sources ⁴	4,462.63	1,287.21	373.62	869.09	5,924.16	3,843.03
Onroad Mobile Sources ⁵	140.23	92.50	11.21	2,937.04	1,331.72	49.15
Nonroad Mobile Sources	64.48	61.55	1.684	615.91	668.43	0.751
Total Emissions	4,803.98	1,521.94	665.05	5,112.33	8,106.69	3,910.37

¹ Primary PM particles are emitted directly to the air from a source and include both filterable particulate and condensable components. PM₁₀ Primary is the sum of filterable PM₁₀ FIL and PM CON.

² PM_{2.5} Primary is the sum of filterable PM_{2.5} and PM CON.

³ The PM₁₀ Primary value for stationary point sources includes a condensable component of 48.04 tpy. Because PM₁₀ includes PM_{2.5} by definition, the PM_{2.5} Primary value for stationary point sources includes the same condensable component of 48.04 tpy.

⁴ PM₁₀ Primary includes PM₁₀ FIL and PM CON. PM_{2.5} Primary includes PM_{2.5} FIL and PM CON. Condensable emissions for the area source sector are a subset of PM Primary emissions, or 38.88 tpy.

⁵ Condensable emissions for the onroad and nonroad sectors are not separately calculated by the MOVES model, and are therefore included within the PM₁₀ Primary and PM_{2.5} Primary values of this table.

Stationary point sources are large, stationary, and identifiable sources of emissions that release pollutants into the atmosphere. PADEP extracted data for PM_{2.5} source emissions from the 2011 NEI v2, which receives input from each state's annual inventory estimates.

Area sources are stationary, nonpoint sources that are too small and numerous to be inventoried individually. Area sources are inventoried at the county level and aggregated with like categories. They are typically estimated through use of emission factors combined with activity factor estimates for each source category, adjusted to reflect emission control efficiency, emission control rule effectiveness, and rule penetration.

Onroad sources of emissions include motor vehicles operated on public roadways. PADEP estimates onroad emissions using EPA's Motor Vehicle Emission Simulator (MOVES) model, version MOVES2014, coupled with vehicle miles of travel activity levels generated by PADEP or local transportation authorities.

Nonroad sources are mobile, internal combustion powered emission sources other than highway motor vehicles. Examples include lawn and garden equipment, recreational vehicles, construction and agricultural equipment, and industrial equipment. Nonroad mobile source emissions from different source categories are calculated using various methodologies, primarily by use of EPA's MOVES NONROAD emissions model or from EPA's National Mobile Inventory Model (NMIM).

EPA reviewed Pennsylvania's 2011 base year emission inventory submissions including results, procedures, and methodologies for the Delaware County and Lebanon County nonattainment areas and found them to be acceptable and approvable under sections 110 and 172(c)(3) of the

CAA. EPA prepared a Technical Support Document (TSD) for each of the Delaware County and Lebanon County nonattainment areas in support of this rulemaking. The TSDs are available in the docket for this action, online at <http://www.regulations.gov>, Docket ID No. EPA-R03-OAR-2017-0423.

On May 3, 2018 (83 FR 19476), EPA published a notice of proposed rulemaking (NPR) for the Commonwealth of Pennsylvania, proposing approval of both the Delaware and Lebanon County 2011 base year emission inventory SIP revisions for the 2012 annual PM_{2.5} NAAQS. The rationale for EPA's proposed action is explained in the NPR and will not be restated here. EPA received three comments on our May 3, 2018 NPR proposing to approve Pennsylvania's May 5, 2017 and September 25, 2017 SIP submittals. All comments received were not specific to this action, and thus are not addressed here.

III. Final Action

EPA is approving Pennsylvania's May 5, 2017 and September 25, 2017 SIP revisions, which are base year emission inventories for the Delaware County and Lebanon County 2012 PM_{2.5} NAAQS, as revisions to the Pennsylvania SIP as the revisions are in accordance with requirements in CAA section 110 generally and section 172(c)(3) specifically.

IV. Statutory and Executive Order Reviews

A. General Requirements

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as

meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866.
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and

- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

B. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

C. Petitions for Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in

the United States Court of Appeals for the appropriate circuit by **[Insert date 60 days after date of publication in the Federal Register]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action to approve base year emission inventories for the Delaware and Lebanon County nonattainment areas for the 2012 annual PM_{2.5} NAAQS may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: June 19, 2018.

Cosmo Servidio,
Regional Administrator,
Region III.

40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart NN Pennsylvania

2. In § 52.2020, the table in paragraph (e)(1) is amended by adding two entries entitled “2011 Base Year Emissions Inventory for the 2012 Annual Fine Particulate (PM_{2.5}) National Ambient Air Quality Standard” “Delaware County 2012 PM_{2.5} nonattainment area” and “2011 Base Year Emissions Inventory for the 2012 Annual Fine Particulate (PM_{2.5}) National Ambient Air Quality Standard” “Lebanon County 2012 PM_{2.5} nonattainment area” at the end of the table to read as follows:

§ 52.2020 Identification of plan.

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(e) * * *

(1) EPA—APPROVED NONREGULATORY AND QUASI-REGULATORY MATERIAL

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
* * * * *				
2011 Base Year Emissions Inventory for the 2012 Annual Fine Particulate (PM _{2.5}) National Ambient Air Quality Standard.	Delaware County 2012 PM _{2.5} nonattainment area	5/5/2017	[<u>Insert date of publication in the Federal Register</u>], [<u>Insert Federal Register citation</u>]	

Name of non-regulatory SIP revision	Applicable geographic area	State submittal date	EPA approval date	Additional explanation
2011 Base Year Emissions Inventory for the 2012 Annual Fine Particulate (PM2.5) National Ambient Air Quality Standard.	Lebanon County 2012 PM _{2.5} nonattainment area	9/25/2017	<u>[Insert date of publication in the Federal Register], [Insert Federal Register citation]</u>	

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[FR Doc. 2018-14199 Filed: 7/2/2018 8:45 am; Publication Date: 7/3/2018]