

Plan Summary

Title: Redesignation of the Allentown Nonattainment Area to Attainment for the 2006 24-Hour Fine Particulate Matter Standard

Federal Register Date: Final Rulemaking dated April 13, 2015 - 80 FR 19548, Notice of Proposed Rulemaking dated February 04, 2015 - 80 FR 6019

EPA Effective Date: April 13, 2015

State Submittal Date: 09/05/2014

Affected Area(s): The Allentown Area is comprised of Lehigh and Northampton Counties.

Background of the Plan:

On October 17, 2006, EPA revised the 24-hour standard for PM_{2.5} from 15 ug/ m³ to 35ug/m³ based on the three-year average of the 98th percentile of the 24-hour concentrations (the 2006 24-hour PM_{2.5} NAAQS).

On November 13, 2009 (70 FR 944), EPA published designations for the 2006 24-hour PM_{2.5} NAAQS, effective on December 14, 2009. In that rulemaking action EPA designated the Allentown area as nonattainment for the 2006 24-hour PM_{2.5} NAAQS. On March 29, 2012 EPA determined that the Allentown Area had clean data and monitored attainment for the 2006 24-hour PM_{2.5} NAAQS. The requirements for the area to submit demonstration and associated reasonably available control measures (RACM) , reasonable further progress (RFP) plan, contingency measures and other planning SIP revisions related to attainment of the 2006 24-hour PM_{2.5} NAAQS are suspended until the area is redesignated to attainment for the standard (at which time the section 51.1004 (c) requirements no longer apply), or until EPA determines the area has again violated the standard , at which time such plans are required to be submitted. EPA's review of the recent certified monitored data for the area shows the area continues to attain the 2006 24-hour PM_{2.5} NAAQS.

On September 5, 2014 the Commonwealth of Pennsylvania submitted a formal request to redesignate the Allentown from nonattainment to attainment for the 2006 24-hour PM_{2.5} NAAQS. The PADEP also submitted a maintenance plan for the area as a Sip revision to ensure continued attainment throughout the area over the next 10 years. This maintenance plan includes the 2017 and 2025 PM_{2.5} and NO_x MVEBs for the area for the 2006 24-hour PM_{2.5} NAAQS. PADEP also submitted 2007 comprehensive emissions inventory for the area for the 2006 24-hour PM_{2.5} NAAQS for PM_{2.5}, sulfur dioxide (SO₂), volatile organic compounds (VOCs), and ammonia (NH₃). In the proposed rulemaking, EPA addressed effects of several decisions of the United States Court of Appeals for the District of Columbia (D.C. Circuit Court) and a decision of the United States Supreme Court regarding The Cross-State Air Pollution Control Rule (CSAPR).

Summary: EPA approved the Commonwealth of Pennsylvania's request to redesignate to attainment the Allentown nonattainment area for the 2006 24-hour fine particulate matter (PM_{2.5}) NAAQS. EPA determined that the Allentown Area continues to attain the 2006 24-hour PM_{2.5} NAAQS. In addition, EPA approved as a revision to the Pennsylvania State Implementation Plan

(SIP) for the associated maintenance plan to show maintenance of the 2006 24-hour PM_{2.5} NAAQS through 2025 for the Area. This maintenance plan includes the 2017 and 2025 PM_{2.5} and nitrogen oxides (NO_x) mobile vehicle emissions budgets (MVEBs) for the area for the 2006 24-hour PM_{2.5} NAAQS, which EPA is proposing to approve.

EPA previously determined that the Allentown Area had clean data showing monitored attainment for the 2006 24-hour PM_{2.5} NAAQS, and EPA has found that the Allentown Area continues to attain the 2006 24-hour PM_{2.5} NAAQS. In this action EPA also approved the 2007 comprehensive emissions inventory submitted by PADEP that includes PM_{2.5}, SO₂, NO_x, VOC, and NH₃ for the Area as a revision to the Pennsylvania SIP for the 2006 24-hour PM_{2.5} NAAQS in order to meet the requirements of section 172(c)(3) of the CAA.

Emissions Inventory:

Baseline 2005 Emissions Inventory: An emissions inventory is an estimate of the emissions from sources in a particular area. The 2005 Baseline year emissions inventory demonstrate the emissions present when the Allentown area did not meet the 2006 24-hour PM_{2.5} standard. This baseline year inventory for 2005 includes the pollutants PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and NH₃. The inventory collected sources from four sectors: electric generating units (EGUs), non-EGU point and stationary area sources, highway vehicle sources and nonroad sources. The highway vehicle emissions in the 2005NEI were generated using the MOBILE6 model, which predicts lower NO_x and PM emissions than the current model, MOVES2010. Also, MARAMA adjusted PM emissions to account for condensable PM emissions from EGUs in the 2007, 2017, and 2025 emissions inventories. This results in higher emissions in the 2007 inventory than those reported by facilities in 2007. Table III-I summarizes the 2005 annual emission for the Allentown Area.

Table III-1: 2005 Allentown Area Annual Emissions (Expressed in Tons per Year)

Allentown 2005	PM_{2.5}	PM₁₀	SO₂	NO_x	VOC	NH₃
EGU	2,991	3,582	48,760	10,485	101	71
Non-EGU + Stationary Area	3,747	19,342	14,712	10,360	11,976	1,049
Highway Vehicles	196	286	255	10,653	7,472	506
Non-Road	273	288	310	3,243	2,928	3
Totals	7,207	23,498	64,036	34,742	22,477	1,629

Attainment Year (2007) Emissions Inventory: A 2007 inventory of PM₁₀, PM_{2.5}, SO₂, NO_x, VOC and NH₃ emissions for the Allentown Area is used to identify emissions during the period when attainment of the PM_{2.5} NAAQS was demonstrated for the Allentown Area.

Table III-2: 2007 Allentown Area Annual Emissions (Expressed in Tons per Year)

Allentown 2007	PM_{2.5}	PM₁₀	SO₂	NO_x	VOC	NH₃
Stationary Point Sources	3,565	4,641	54,071	13,663	1,151	31
Area Sources	2,150	6,415	2,552	1,987	8,266	582
Highway Vehicle Sources	536	647	118	15,857	6,936	245
Non-Road Sources	256	272	158	3,177	2,685	3
Totals	6,507	11,975	56,900	34,685	19,038	861

The following table demonstrates emissions reductions in the Allentown area from 2005 through 2007. (Negative values indicate emissions reductions)

Table III-3: Change in Allentown Area Annual Emissions (Tons per Year) from 2005 to 2007

Change from 2005 to 2007	PM_{2.5}	SO₂	NO_x	VOC	NH₃
Point and Area Sources	-1,023	-6,848	-5,194	-2,660	-507
Highway Vehicle Sources	340	-136	5,204	-536	-261
Nonroad Sources	-17	-151	-66	-243	0
TOTAL	-699	-7,136	-57	-3,439	-768

Projected Emissions: Below are the projected emissions, including those of PM_{2.5}, SO₂, NO_x, VOC, and NH₃, for the years 2007, 2017, and 2025.

Table III-4: Summary of Emission Totals (Tons) in 2007, 2017 and 2025

Allentown	PM_{2.5}	SO₂	NO_x	VOC	NH₃
2007	6,507	56,900	34,685	19,038	861
2017*	5,825	27,731	20,471	14,627	809
2025*	5,745	26,850	17,218	13,133	807

*A portion of the difference between attainment year and maintenance year emissions of PM_{2.5} and NO_x has been set aside as a transportation conformity safety margin to accommodate unanticipated growth in highway vehicles. The emissions in Table III-4 reflect inclusion of that safety margin.

Contingency measures:

Pennsylvania's maintenance plan describes the procedures for the adoption and implementation of contingency measures to reduce emissions should a violation occur. Pennsylvania's contingency measures include a first level response and a second level response. A first level response is triggered when the annual mean PM_{2.5} concentration exceeds 35.0 µg/m³ in a single calendar year within the Area, or if the periodic emissions inventory for the Area exceeds the attainment year inventory by more than ten percent. The first level response will consist of a

study to determine if the emissions trends show increasing concentrations of PM_{2.5}, and whether this trend is likely to continue. If it is determined through the study that action is necessary to reverse a trend of emissions increases, Pennsylvania will, as expeditiously as possible, implement necessary and appropriate control measures to reverse the trend.

A second level response will be prompted if the two-year average of the annual mean concentration exceeds 35.0 µg/m³ within the Area. This would trigger an evaluation of the conditions causing the exceedence, whether additional emission control measures should be implemented to prevent a violation of the standard, and analysis of potential measures that could be implemented to prevent a violation. Pennsylvania would then begin its adoption process to implement the measures as expeditiously as practicable.

Pennsylvania's candidate contingency measures include the following: (1) A regulation based on the Ozone Transport Commission (OTC) Model Rule to update requirements for consumer products; (2) a regulation based on the Control Techniques Guidelines (CTG) for industrial cleaning solvents; (3) voluntary diesel projects such as diesel retrofit for public or private local onroad or offroad fleets, idling reduction technology for Class 2 yard locomotives, and idling reduction technologies or strategies for truck stops, warehouses, and other freight-handling facilities; (4) promotion of accelerated turnover of lawn and garden equipment, focusing on commercial equipment; and (5) promotion of alternative fuels for fleets, home heating and agricultural use. Pennsylvania's rulemaking process and schedule for adoption and implementation of any necessary contingency measure is shown in the SIP submittals as being 18 months from PADEP's approval to initiate rulemaking. For all of the reasons discussed in this section, EPA is proposing to approve Pennsylvania's 2006 24-hour PM_{2.5} maintenance plan for the Allentown Area as meeting the requirements of section 175A of the CAA.

Transportation Conformity:

EPA has reviewed the MVEBs and finds them consistent with the maintenance plan and that the budgets meet the criteria for adequacy and approval in 40 CFR 93, Subpart A. Therefore, EPA approved the 2017 and 2025 PM_{2.5} and NO_x MVEBs for Lehigh and Northampton Counties for transportation conformity purposes. Additional information pertaining to the review of the MVEBs can be found in the TSD, "Adequacy Findings for the Motor Vehicle Emissions Budgets in the Maintenance Plan for the Allentown 2006 Fine Particulate National Ambient Air Quality Standard Nonattainment Area," dated December 1, 2014, available on line at www.regulations.gov, Docket ID No. EPA-R03-OAR-2014-0789.

MVEBs for Lehigh and Northampton Counties in Pennsylvania for the 2006 24-hour NAAQS, in tpy

Year	PM_{2.5}	NO_x
2017	297	8,081
2025	234	5,303

Contact Person: Rose Quinto, U.S. EPA, Region III
1650 Arch Street, Philadelphia, Pennsylvania 19103
Telephone: (215) 814-2182, Email: quinto.rose@epa.gov