

## Plan Summary

**Title: Redesignation Request and Associated Maintenance Plan for the Reading, Pennsylvania Nonattainment Area for the 1997 Annual Fine Particulate Matter Standard, and the 2007 Base Year Inventory**

**Federal Register Date:** 03/04/2015/ Final Rulemaking 80 FR 1158, Proposed Rulemaking 79 FR 76251 dated 12/22/2014

**EPA Effective Date:** Final Rule effective on 03/04/2015

**State Submittal Date:** 11/25/2013

**Affected Area(s):** The Reading Area

### **Background of the Plan:**

On November 25, 2013 the Commonwealth of Pennsylvania through the Pennsylvania Department of Environmental Protection (PADEP), submitted a formal request to redesignate the Reading area from nonattainment to attainment for the 1997 annual PM<sub>2.5</sub> 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<sub>2.5</sub> and NO<sub>x</sub> MVEBs for the Area for the 1997 annual PM<sub>2.5</sub> NAAQS, which PA approved for purposes of transportation conformity. PADEP also submitted a 2007 comprehensive emissions inventory for the 1997 annual PM<sub>2.5</sub> NAAQS for PM<sub>2.5</sub>, NO<sub>x</sub>, sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), and ammonia (NH<sub>3</sub>).

On December 22, 2014 EPA published a notice of proposed rulemaking (NPR) for the Commonwealth of Pennsylvania. Details of Pennsylvania's submittal and rationale for EPA's proposed actions are explained in the NPR. No public comments were received on the NPR.

With this final action, EPA approved several rulemaking actions related to the redesignation of the Reading Area to attainment for the 1997 annual PM<sub>2.5</sub> NAAQS. EPA found that the Area meets the requirements for redesignation for the 1997 annual PM<sub>2.5</sub> NAAQS under section 107(d)(3)(E) of the CAA. EPA also approved the associated maintenance plan for the Reading Area as a revision to the Pennsylvania SIP for the 1997 annual PM<sub>2.5</sub> NAAQS, including the 2017 and 2025 PM<sub>2.5</sub> and NO<sub>x</sub> MVEBs for the Area. The approval of the maintenance plan is one of the CAA criteria for redesignation of the Area to attainment for the 1997 annual PM<sub>2.5</sub> NAAQS. Pennsylvania's maintenance plan is designed to ensure continued attainment in the Reading Area for 10 years after redesignation.

EPA previously determined that the Reading Area had attained the 1997 annual PM<sub>2.5</sub> NAAQS. *See* 76 FR 45424, (July 27, 2011). In this rulemaking action, EPA found that the Area continues to attain the standard. EPA also approved the 2007 comprehensive emissions inventory that includes PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and NH<sub>3</sub> for the Reading Area as a revision to the Pennsylvania SIP for the 1997 annual PM<sub>2.5</sub> NAAQS in order to meet the requirements of section 172(c)(3) of the CAA.

**Summary:**

The Environmental Protection Agency (EPA) approved the Commonwealth of Pennsylvania's Request to redesignate to attainment the Reading, Pennsylvania nonattainment area (Reading Area or Area) for the 1997 annual fine particulate matter (PM<sub>2.5</sub>) National Ambient Air quality standard (NAAQS). EPA has determined that the Reading Area attained the standard and that it continues to attain the standard. EPA also approved as a revision to the Pennsylvania State implementation plan (SIP), the Reading Area maintenance plan to show maintenance of the 1997 annual PM<sub>2.5</sub> NAAQS through 2025 for the Area. The maintenance plan includes the 2017 and 2025 PM<sub>2.5</sub> and nitrogen oxides (NO<sub>x</sub>) mobile vehicle emissions budgets (MVEBs) for the Reading Area for the 1997 annual PM<sub>2.5</sub> NAAQS, which EPA approved and finding adequate for purposes of transportation conformity. EPA also approved the comprehensive emission inventory for the 1997 annual PM<sub>2.5</sub> NAAQS for the Reading Area.

EPA approved Pennsylvania's redesignation request for the 1997 annual PM<sub>2.5</sub> NAAQS, because EPA has determined that the request meets the redesignation criteria in section 107(d)(3)(E) of the Clean Air Act (CAA) for this standard. EPA also found that the monitoring data demonstrates that the Area has attained the 1997 PM<sub>2.5</sub> NAAQS, and continued to attain the NAAQS. EPA also approved the associated maintenance plan for the Reading area as a revision to the Pennsylvania SIP for the 1997 annual PM<sub>2.5</sub> NAAQS.

**Emissions Inventory:**

In this rulemaking action, EPA is proposing to approve the Reading Area 2007 base year emissions inventory in accordance with section 172(c)(3) of the CAA. Final approval of the 2007 base year emissions inventory will satisfy the emissions inventory requirement under section 172(c)(3) of the CAA. For more information on the development of the 2007 base year emissions inventory, *see* Appendix C of the Commonwealth's submittal, and, for information on EPA's analysis, *see* the emissions inventory technical support document (TSD) dated April 18, 2014, both available in the docket for the Dec. 22, 2014 proposed rulemaking action. A summary of the 2007 base year emissions inventory is shown in below.

**Reading Area 2007 Emissions in tons per year (tpy) by Source Sector**

<i>Sector</i>	<i>PM<sub>2.5</sub></i>	<i>NO<sub>x</sub></i>	<i>SO<sub>2</sub></i>	<i>VOC</i>	<i>NH<sub>3</sub></i>
Point	1,272	5,793	15,140	1,237	21
Area	1,859	1,289	2,389	5,877	3,632
Nonroad	383	11,374	81	4,415	163
Onroad	191	2,532	106	2,096	2
<b>Total</b>	<b>3,704</b>	<b>20,988</b>	<b>17,716</b>	<b>13,625</b>	<b>3,818</b>

**Emission Reductions from 2002 Base Year to 2007 Attainment Year in the Reading Area (tpy)**

	<b>Sector</b>	<b>2002</b>	<b>2007</b>	<b>Decrease</b>
<b>PM<sub>2.5</sub></b>	Stationary Point	577	1,272	-695
	Area	2,608	1,859	750
	Onroad	459	383	77
	Nonroad	212	191	22
	<b>Total</b>	<b>3,856</b>	<b>3,705</b>	<b>154</b>

<b>NO<sub>x</sub></b>	Stationary Point	5,363	5,793	-431
	Area	1,502	1,289	213
	Onroad	14,922	11,374	3,548
	Nonroad	3,323	2,532	791
	<b>Total</b>	<b>26,110</b>	<b>21,988</b>	<b>4,121</b>
<b>SO<sub>2</sub></b>	Stationary Point	14,834	15,140	-305
	Area	2,131	2,389	-258
	Onroad	306	81	225
	Nonroad	242	106	136
	<b>Total</b>	<b>17,513</b>	<b>17,716</b>	<b>-202</b>
<b>VOC</b>	Stationary Point	1,740	1,237	503
	Area	8,819	5,877	2,942
	Onroad	5,237	4,415	823
	Nonroad	2,331	2,096	235
	<b>Total</b>	<b>18,127</b>	<b>13,625</b>	<b>4,203</b>
<b>NH<sub>3</sub></b>	Stationary Point	9	21	-11
	Area	4,284	3,632	651
	Onroad	180	163	17
	Nonroad	2	2	0
	<b>Total</b>	<b>4,475</b>	<b>3,818</b>	<b>1,314</b>

EPA approves as revisions to the Pennsylvania State Implementation Plan the 2007 base year emissions inventory for the Reading 1997 annual fine particulate matter (PM<sub>2.5</sub>) nonattainment areas submitted by the Pennsylvania Department of Environmental Protection on November 25, 2014. The emissions inventory includes emissions estimates that cover the general source categories of point, area, nonroad, and onroad sources. The pollutants that comprise the inventory are PM<sub>2.5</sub>, nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), ammonia (NH<sub>3</sub>), and sulfur dioxide (SO<sub>2</sub>).

The table below provides a summary of the inventories for the 2007 attainment year, as compared to the projected inventories for the 2017 interim year and the 2025 maintenance plan end year for the Area.

#### **Comparison of 2007 attainment year inventory with 2017 and 2025 projected emissions in the Reading Area (tpy)**

	<b>2007</b>	<b>2017</b>	<b>2025</b>	<b>Reductions 2007 - 2017</b>	<b>Reductions 2007 - 2025</b>
PM <sub>2.5</sub>	3,704	3,307	3,215	397	489
NO <sub>x</sub>	20,988	12,386	10,186	8,602	10,802
SO <sub>2</sub>	17,716	15,567	15,908	2,149	1,808
VOC	13,625	10,697	9,692	2,928	3,933
NH <sub>3</sub>	3,818	4,119	4,368	-301	-550

As shown above, the projected levels of PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and VOC are under the 2007 attainment year levels for each of these pollutants.

EPA has reviewed the most recent ambient air quality PM<sub>2.5</sub> monitoring data for PM<sub>2.5</sub> in the

Reading Area, as submitted by the Commonwealth and recorded in EPA’s Air Quality System (AQS). The table below shows the PM<sub>2.5</sub> quality-assured, quality-controlled, and state-certified 2008-2013 air quality data which indicates that the Reading Area continues to attain the 1997 annual PM<sub>2.5</sub> NAAQS. *See* the AQS design value reports dated April 16, 2014 and October 8, 2014 included in the docket for this proposed rulemaking action.

**Design Values in the Reading Area for the 1997 Annual PM<sub>2.5</sub> NAAQS for 2008 through 2013 (µg/m<sup>3</sup>)**

Monitor ID #	2008-2010	2009-2011	2010-2012	2011-2013
420110011 (Reading Airport)	11.1	10.7	10.9	11.0

The Reading Area’s recent monitoring data supports EPA’s previous determinations that the Area has attained the 1997 annual PM<sub>2.5</sub> NAAQS.

**Contingency measures:**

The contingency plan provisions for maintenance plans are designed to promptly correct a violation of the NAAQS that occurs after redesignation. Section 175A of the CAA requires that a maintenance plan include such contingency measures as EPA deems necessary to ensure that a state will promptly correct a violation of the NAAQS that occurs after redesignation. The maintenance plan should identify the events that would “trigger” the adoption and implementation of a contingency measure(s), the contingency measure(s) that would be adopted and implemented, and the schedule indicating the time frame by which the state would adopt and implement the measure(s).

The Reading maintenance plan includes a commitment by Pennsylvania to adopt and expeditiously implement necessary corrective actions in the event of a violation of the NAAQS, or in the event of certain triggers. The maintenance plan describes the procedures and schedule for the adoption and implementation of contingency measures to reduce emissions should an exceedance or a violation occur, and consists of a first level response and a second level response.

A first level response is triggered when the annual mean PM<sub>2.5</sub> concentration exceeds 15.5 µg/m<sup>3</sup> in a single calendar year within the Reading Area, or if the periodic emissions inventory for the Reading 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<sub>2.5</sub>, 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 15.0 µg/m<sup>3</sup> within the Area. This would trigger an evaluation of the conditions causing the exceedance, 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. The Commonwealth’s rulemaking process and schedule for adoption and implementation of any necessary contingency measure is shown in the plan as being 18 months from PADEP’s receipt of approval to initiate rulemaking. For all of the reasons discussed in this section, EPA approved Pennsylvania’s 1997 annual PM<sub>2.5</sub> maintenance plan for the Reading Area as meeting the requirements of section 175A of the CAA.

**Transportation Conformity:**

**MVEBs for Berks County, Pennsylvania for the 1997 PM<sub>2.5</sub> NAAQS (tpy)**

Year	PM <sub>2.5</sub>	NO <sub>x</sub>
2017	200	5,739
2025	146	3,719

EPA had reviewed the MVEBs and found them consistent with the maintenance plan and that the budgets met the criteria for adequacy and approval.

**Monitoring:**

Pennsylvania currently operates one PM<sub>2.5</sub> monitor in the Reading Area, which is located at the Reading Airport. The Reading Area maintenance plan includes a commitment by PADEP to continue to operate its EPA-approved monitoring network, as necessary to demonstrate ongoing compliance with the NAAQS. In its November 25, 2013 maintenance plan submittal, PADEP states that it will consult with EPA prior to making any necessary changes to the network and will continue to quality assure the monitoring data in accordance with the requirements of 40 CFR Part 58.

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