

## Plan Summary

### **Title: Redesignation Request and Associated Maintenance Plan for the Johnstown Nonattainment Area for the 1997 Annual and 24-Hour Fine Particulate Matter Standard**

**Federal Register Date:** 7/16/15 / 80 FR 42046

**EPA Effective Date:** This final rule is effective on July 16, 2015

**State Submittal Date:** 12/3/2014

**Affected Area(s):** On January 5, 2005 EPA published air quality area designations for the 1997 PM<sub>2.5</sub> NAAQS. In this rulemaking the Johnstown Area, comprised of Cambria County and portions of Indiana County (Township of West Wheatfield, venter, East Wheatfield, and Armagh Borough and Homer City Borough), [40 CFR 81.339] was designated as nonattainment for the 1997 annual PM<sub>2.5</sub> NAAQS.

On November 13, 2009 (74 FR 58688) EPA published designations for the 2006 24-hour PM<sub>2.5</sub> NAAQS, which became affected in December 14, 2009. In such a rulemaking action, EPA designated the Johnstown area, comprised of Cambria County and Indiana County, as nonattainment for the 2006 24-hour PM<sub>2.5</sub> NAAQS. [40.CFR 81.339]

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

The first air quality standards for PM<sub>2.5</sub> were established on July 18, 1997 (62 FR 38652). EPA promulgated an annual standard at a level of 15 micrograms per cubic meter (ug/m<sup>3</sup>), based on a three-year average of annual mean PM<sub>2.5</sub> concentrations (The 1997 annual PM<sub>2.5</sub> NAAQS). In the same rulemaking action, EPA promulgated a 24-hour standard of 65 ug/m<sup>3</sup>, based on a three-year average of the 98<sup>th</sup> percentile of 24-hour concentrations.

On January 5, 2005, EPA published air quality area designations for the 1997 PM<sub>2.5</sub> NAAQS, in which the Johnstown Area, comprising of Cambria County and portions of Indiana County (Township of West Wheatfield, Center, East Wheatfield, and Armagh Borough and Homer City), was designated as nonattainment for the 1997 annual PM<sub>3.5</sub> NAAQS. On October 17, 2006 (70 FR 61144), EPA made a revision to the 24-hour standard to 35 ug/m<sup>3</sup>, based on the three-year average of the 98<sup>th</sup> percentile of 24-hour concentrations. EPA published designations for the 2006 24-hour PM<sub>2.5</sub> NAAQS on November 13, 2009; such a rulemaking became effective on December 14, 2009. In that rulemaking action, EPA designated the Johnstown Area, comprising of Cambria County and portions of Indiana County, as nonattainment for the 2006 24-hour PM<sub>2.5</sub> NAAQS.

On September 25, 2009 (74 FR 48863) and March 29, 2012 (77 FR 18922), EPA made determinations that the Johnstown Area had attained the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS, respectively. Pursuant to 40 CFR 51.1004(c) and based on these determinations, the requirements for the area to submit an attainment demonstration and associated reasonably available control measures (RACM), a reasonable further progress (RFP) plan, contingency measures, and other planning SIPs related to the attainment of either the 1997 annual or 2006 24-hour PM<sub>2.5</sub> NAAQS were and continue to be, suspended until such time as: The Area is redesignated to attainment for each standard, at which time the requirements no longer apply; or EPA determines that the Area has again violated any of the standards at which time such plans are required to be submitted. On July 29, 2011, EPA also determined

in accordance with section 179 (c) of the CAA that the Johnstown area attained the 1997 annual PM<sub>2.5</sub> NAAQS by its applicable attainment date of April 5, 2010.

On December 3, 2014, the Commonwealth of Pennsylvania, through the Pennsylvania Department of Environmental Protection (PADEP), formally submitted a request to redesignate the Johnstown Area from nonattainment to attainment for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS. Concurrently PADEP submitted a combined maintenance plan for the Area as a SIP revision to ensure continued attainment throughout the Area over the next 10 years. The 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 and the 2006 24-hour PM<sub>2.5</sub> NAAQS. Also included in the maintenance plan is the 2007 comprehensive emissions inventory for both the 1997 annual and the 2006 24-hour 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 (VOCs), and Ammonia (NH<sub>3</sub>).

In the proposed rulemaking action, EPA addressed the 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: (1) The D.C. Circuit Court's August 21, 2012 decision to vacate and remand to EPA the Cross-State Air Pollution Control Rule (CSAPR); (2) The Supreme Court's April 29, 2014 reversal of the vacature of CSAPR, and remand to the D.C. Circuit Court; (3) the D.C. Circuit Court's October 23, 2014 decision to lift the stay of CSAPR; and (4) the D.C. Circuit Court's January 4, 2013 decision to remand to EPA two final rules implementing the 1997 annual PM<sub>2.5</sub> NAAQS.

**Summary:** EPA took final action on the redesignation request and SIP revisions submitted on December 3, 2014 by the Commonwealth of Pennsylvania for the Johnstown Area for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS. First, EPA found that the monitoring data demonstrates that the Area has attained the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS and continues to attain both NAAQS. Second EPA is approving Pennsylvania's redesignation request for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS, because EPA has determined that the request meets the redesignation criteria set forth in section 107(d)(3)(E) of the Clean Air Act (CAA) for both NAAQS. Approval of this redesignation will change the official designation of the Johnstown Area from nonattainment to attainment for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS. Third, EPA approved the associated maintenance plan for the Johnstown Area as a revision to the Pennsylvania EIP for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS because it meets the requirements for section 175A of the CAA. In addition EPA is approving the 2007 emissions inventory for Johnstown Area as meeting the requirement for section 172(c)(3) of the CAA for both NAAQS. EPA finds good cause under 5U.S.C. 553(d) for this rulemaking action to become effective on the date of publication.

#### **Contingency Measure(s):**

The purpose of the contingency plan is to correct any violation of the 1997 annual and/or 2006 24-hour PM<sub>2.5</sub> NAAQS that occurs in the Johnstown area after redesignation. This contingency measure is required by section 175 A of the CAA to ensure that a state will promptly correct a violation of the NAAQS occurs after redesignation. The maintenance plan should identify any event leading to the adoption and implementation of a contingency measure and the schedule indicating the timeframe by which the state would adopt and implement such a measure.

Pennsylvania's maintenance plan describes the procedures for the adoption and implementation of contingency measures to reduce emissions if a violation were to occur. Pennsylvania's contingency measures contains first level response and a second level response. The prior is triggered when the

annual mean PM<sub>2.5</sub> concentration exceeds 15.5 mg/m<sup>3</sup> in a single calendar year within the Area, when the 98th percentile 24-hour PM<sub>2.5</sub> concentration exceeds 35.0 mg/m<sup>3</sup> in a single calendar year within the Area, or when the periodic emissions inventory for the Area exceeds the attainment year inventory (2007) by more than ten percent. This first level response will consist of a study which will determine if the emissions trends show increasing concentrations of PM<sub>2.5</sub> and whether this trend is likely to continue. Pennsylvania will implement necessary measures to reverse these trends if they seem to show an increase in emissions. The second level response will be prompted if the two-year average of the annual mean concentration exceeds 15.0 mg/m<sup>3</sup> or if the two-year average of 98<sup>th</sup> percentile 24-hour PM<sub>2.5</sub> concentration exceeds 35.0 mg/m<sup>3</sup> within the Area, and would initiate an evaluation of the conditions causing the exceedance, whether additional emission control measures should be implemented to prevent a violation of the standards, and analysis of potential measures that could be implemented to prevent a violation. Pennsylvania would then begin its adoption process to implement the measures to implement the measures. If a violation of the PM 2.5 NAAQS occurs, PADEP will propose and adopt additional control measures in accordance with the implementation schedule in maintenance plan.

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 1997 annual and 2006 24-hour PM<sub>2</sub> maintenance plan for the Johnstown Area as meeting the requirements of section 175A of the CAA.

### **Emissions budgets/Emissions inventory:**

The requirement under section 172(c)(3) of the Clean Air Act (CAA) is the only remaining requirement under section 172 to be considered for purposes of redesignation of the Area. Section 172(c)(3) of the CAA requires submission and approval of a comprehensive, accurate, and current inventory of actual emissions. To satisfy the 172(c)(3) requirement for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS, Pennsylvania's December 3, 2014 redesignation request and maintenance plan for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS contains a 2007 comprehensive emissions inventory. The 2007 emissions inventory was the most current accurate and comprehensive emissions inventory of PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, VOC, and NH<sub>3</sub> for the Area when it attained the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS. Thus, as part of this rulemaking action, EPA is proposing to approve Pennsylvania's 2007 comprehensive emissions inventory for the 1997 annual and the 2006 24-hour PM<sub>2.5</sub> NAAQS as satisfying the requirement of section 172(c)(3) of the CAA for both standards. Final approval of the 2007 base year emissions inventory will satisfy the emissions inventory requirement under section 172(c)(3) of the CAA for the 1997 annual and the 2006 24-hour PM<sub>2.5</sub> NAAQS. The 2007 comprehensive emissions inventory addresses the general source categories of point sources, area sources, on-road mobile sources, and non-road mobile sources. A summary of the 2007 comprehensive emissions inventory is shown in Table 3.

The maintenance plan includes the 2017 and 2025 PM<sub>2.5</sub> and nitrogen oxides (NO<sub>x</sub>) motor vehicle emissions budgets (MVEBs) for the Area for both NAAQS, which EPA is proposing to approve for transportation conformity purposes. Furthermore, EPA approved as a revision to the Pennsylvania SIP the 2007 emissions inventory that is also included in the maintenance plan for the Area for both NAAQS.

TABLE 3—2007 EMISSIONS FOR THE JOHNSTOWN AREA, IN TONS PER YEAR (TPY)

| Sector        | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>2</sub> | VOC   | NH <sub>3</sub> |
|---------------|-------------------|-----------------|-----------------|-------|-----------------|
| Point .....   | 3,091             | 41,876          | 143,322         | 242   | 35              |
| Area .....    | 719               | 607             | 858             | 2,415 | 409             |
| Onroad .....  | 131               | 4,011           | 30              | 1,770 | 63              |
| Nonroad ..... | 89                | 1,464           | 42              | 897   | 1               |
| Total .....   | 4,031             | 47,958          | 144,252         | 5,325 | 508             |

TABLE 4—EMISSION REDUCTIONS FROM 2005 TO 2007 IN THE JOHNSTOWN AREA [TPY]

|                         | Sector         | 2005    | 2007    | Net reduction 2005–2007 | Percent reduction 2005–2007 |
|-------------------------|----------------|---------|---------|-------------------------|-----------------------------|
| PM <sub>2.5</sub> ..... | Point .....    | 11,872  | 3,091   | 8,781                   | 74                          |
|                         | Area .....     | 1,201   | 719     | 482                     | 40                          |
|                         | On-road .....  | 142     | 131     | 10                      | 7                           |
|                         | Non-road ..... | 84      | 89      | -5                      | -6                          |
|                         | Total .....    | 13,299  | 4,031   | 9,268                   | 70                          |
| NO <sub>x</sub> .....   | Point .....    | 41,646  | 41,876  | -230                    | -1                          |
|                         | Area .....     | 751     | 607     | 144                     | 19                          |
|                         | On-road .....  | 4,483   | 4,011   | 472                     | 11                          |
|                         | Non-road ..... | 1,364   | 1,464   | -100                    | -7                          |
|                         | Total .....    | 48,244  | 47,958  | 286                     | 1                           |
| SO <sub>2</sub> .....   | Point .....    | 152,657 | 143,322 | 9,335                   | 6                           |
|                         | Area .....     | 1,859   | 858     | 1,001                   | 54                          |
|                         | On-road .....  | 61      | 30      | 31                      | 51                          |
|                         | Non-road ..... | 112     | 42      | 70                      | 63                          |
|                         | Total .....    | 154,689 | 144,252 | 10,437                  | 7                           |
| VOC .....               | Point .....    | 344     | 243     | 101                     | 30                          |
|                         | Area .....     | 3,092   | 2,415   | 677                     | 22                          |
|                         | On-road .....  | 1,919   | 1,770   | 149                     | 8                           |
|                         | Non-road ..... | 945     | 897     | 48                      | 5                           |
|                         | Total .....    | 6,300   | 5,325   | 975                     | 15                          |
| NH <sub>3</sub> .....   | Point .....    | 5       | 35      | -30                     | -600                        |
|                         | Area .....     | 511     | 409     | 102                     | 20                          |
|                         | On-road .....  | 67      | 63      | 4                       | 6                           |
|                         | Non-road ..... | 1       | 1       | 0                       | 0                           |
|                         | Total .....    | 584     | 508     | 76                      | 13                          |

TABLE 5—EMISSION REDUCTIONS FROM 2007 TO 2025 DUE TO CONTROL MEASURES IN TPY

|                              | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>2</sub> | VOC   | NH <sub>3</sub> |
|------------------------------|-------------------|-----------------|-----------------|-------|-----------------|
| Point .....                  | 96                | 1,304           | 1,820           | -4    | -1              |
| Area .....                   | 66                | 28              | 441             | 312   | -7              |
| On-Road .....                | 80                | 2,813           | 19              | 1193  | 22              |
| Non-Road .....               | 51                | 801             | 40              | 444   | 0               |
| Natural Gas Activities ..... | -3                | -98             | 0               | -91   | 0               |
| Total .....                  | 290               | 4,848           | 2,320           | 1,854 | 14              |

**2007 Emissions for the Johnstown Area, in tons per year (tpy)**

| Sector       | PM <sub>2.5</sub> | NOx           | SO <sub>2</sub> | VOC          | NH <sub>3</sub> |
|--------------|-------------------|---------------|-----------------|--------------|-----------------|
| Point        | 3,091             | 41,876        | 143,322         | 242          | 35              |
| Area         | 719               | 607           | 858             | 2,415        | 409             |
| Onroad       | 131               | 4,011         | 30              | 1,770        | 63              |
| Nonroad      | 89                | 1,464         | 42              | 897          | 1               |
| <b>Total</b> | <b>4,031</b>      | <b>47,958</b> | <b>144,252</b>  | <b>5,325</b> | <b>508</b>      |

**Comparison of 2007, 2017, and 2025 Emissions of PM<sub>2.5</sub> for the Johnstown Area**

| PM <sub>2.5</sub>      |              |              |              |            |                   |            |                   |
|------------------------|--------------|--------------|--------------|------------|-------------------|------------|-------------------|
| Sector                 | 2007         | 2017         | 2025         | 2007-2017  |                   | 2007-2025  |                   |
|                        |              |              |              | Reduction  | Percent Reduction | Reduction  | Percent Reduction |
| Point                  | 3,091        | 2,788        | 2,995        | 303        | 10                | 96         | 3                 |
| Area                   | 719          | 692          | 654          | 27         | 4                 | 65         | 9                 |
| On-Road                | 131          | 71           | 51           | 61         | 46                | 80         | 61                |
| Non-Road               | 89           | 52           | 38           | 37         | 41                | 51         | 57                |
| Natural Gas Activities |              | 2            | 3            | -2         |                   | -3         |                   |
| <b>Total</b>           | <b>4,031</b> | <b>3,605</b> | <b>3,741</b> | <b>426</b> | <b>11</b>         | <b>289</b> | <b>7</b>          |

**Comparison of 2007, 2017, and 2025 Emissions of NOx for the Johnstown Area**

| NOx                    |               |               |               |             |                   |              |                   |
|------------------------|---------------|---------------|---------------|-------------|-------------------|--------------|-------------------|
| Sector                 | 2007          | 2017          | 2025          | 2007-2017   |                   | 2007-2025    |                   |
|                        |               |               |               | Reduction   | Percent Reduction | Reduction    | Percent Reduction |
| Point                  | 41,876        | 37,562        | 40,572        | 4,314       | 10                | 1,304        | 3                 |
| Area                   | 607           | 576           | 579           | 31          | 5                 | 28           | 5                 |
| On-Road                | 4,011         | 1,946         | 1,198         | 2,065       | 51                | 2,813        | 70                |
| Non-Road               | 1,464         | 910           | 663           | 554         | 39                | 801          | 55                |
| Natural Gas Activities |               | 52            | 98            | -52         |                   | -98          |                   |
| <b>Total</b>           | <b>47,958</b> | <b>41,046</b> | <b>43,110</b> | <b>6912</b> | <b>14</b>         | <b>4,848</b> | <b>10</b>         |

**Comparison of 2007, 2017, and 2025 Emissions of SO<sub>2</sub> for the Johnstown Area**

| SO <sub>2</sub>        |         |         |         |           |                   |           |                   |
|------------------------|---------|---------|---------|-----------|-------------------|-----------|-------------------|
| Sector                 | 2007    | 2017    | 2025    | 2007-2017 |                   | 2007-2025 |                   |
|                        |         |         |         | Reduction | Percent Reduction | Reduction | Percent Reduction |
| Point                  | 143,322 | 132,128 | 141,502 | 11,194    | 8                 | 1,820     | 1                 |
| Area                   | 858     | 683     | 418     | 175       | 20                | 440       | 51                |
| On-Road                | 30      | 11      | 11      | 19        | 63                | 19        | 64                |
| Non-Road               | 42      | 1       | 1       | 41        | 98                | 41        | 98                |
| Natural Gas Activities |         | 0       | 0       | 0         |                   | 0         |                   |
| <b>Total</b>           | 144,252 | 132,823 | 141,932 | 11,429    | 8                 | 2,320     | 2                 |

**Comparison of 2007, 2017, and 2025 Emissions of VOC for the Johnstown Area**

| VOC                    |       |       |       |           |                   |           |                   |
|------------------------|-------|-------|-------|-----------|-------------------|-----------|-------------------|
| Sector                 | 2007  | 2017  | 2025  | 2007-2017 |                   | 2007-2025 |                   |
|                        |       |       |       | Reduction | Percent Reduction | Reduction | Percent Reduction |
| Point                  | 243   | 234   | 247   | 9         | 4                 | -4        | -2                |
| Area                   | 2,415 | 2,219 | 2,103 | 196       | 8                 | 312       | 13                |
| On-Road                | 1,770 | 899   | 577   | 871       | 49                | 1,193     | 67                |
| Non-Road               | 897   | 526   | 453   | 371       | 41                | 444       | 50                |
| Natural Gas Activities |       | 47    | 91    | -47       |                   | -91       |                   |
| <b>Total</b>           | 5,325 | 3,925 | 3,471 | 1,400     | 26                | 1,854     | 35                |

**Comparison of 2007, 2017, and 2025 Emissions of NH<sub>3</sub> for the Johnstown Area**

| NH <sub>3</sub> |      |      |      |           |                   |           |                   |
|-----------------|------|------|------|-----------|-------------------|-----------|-------------------|
| Sector          | 2007 | 2017 | 2025 | 2007-2017 |                   | 2007-2025 |                   |
|                 |      |      |      | Reduction | Percent Reduction | Reduction | Percent Reduction |
| Point           | 35   | 34   | 36   | 1         | 3                 | -1        | 0                 |

|                        |     |     |     |    |    |    |    |
|------------------------|-----|-----|-----|----|----|----|----|
| Area                   | 409 | 413 | 416 | -4 | -1 | -7 | -2 |
| On-Road                | 63  | 42  | 41  | 21 | 33 | 22 | 35 |
| Non-Road               | 1   | 1   | 1   | 0  | 0  | 0  | 0  |
| Natural Gas Activities |     | 0   | 0   | 0  |    | 0  |    |
| <b>Total</b>           | 508 | 490 | 494 | 18 | 4  | 14 | 3  |

**MVEBs for the Johnstown Area for the 1997 annual and 2006 24-hour PM<sub>2.5</sub> NAAQS in tpy**

| County                      | Year | PM <sub>2.5</sub> | NOx      |
|-----------------------------|------|-------------------|----------|
| Cambria County              | 2017 | 62.79             | 1,707.03 |
|                             | 2025 | 46.71             | 1,077.46 |
| Indiana County<br>(Partial) | 2017 | 7.95              | 238.50   |
|                             | 2025 | 4.38              | 120.98   |

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