

Plan Summary

Title: Clean Data Determination – Approval of Base Year Emissions Inventory for the Liberty-Clairton Nonattainment Area for the 2006 24-Hour Fine Particulate Matter Standard and Approval of Transportation Conformity Insignificance Findings for the 1997 Annual and 2006 24-Hour Fine Particulate Matter Standards for the Liberty-Clairton Nonattainment Area

Federal Register Date: Direct Final Rulemaking dated October 2, 2015 - 80 FR 59615, Notice of Proposed Rulemaking dated October 2, 2015 80 FR 59703

EPA Effective Date: December 1, 2015

State Submittal Date: 06/21/2013

Affected Area(s): Liberty-Clairton, PA

Background of the Plan:

On November 13, 2009, EPA published designations for the 2006 24-hour PM_{2.5} NAAQS (74 FR 58688). These designations, effective on December 14, 2009, included the Liberty-Clairton Area as a nonattainment area for the 2006 24-hour PM_{2.5} NAAQS, retaining the same geographical boundaries as for the 1997 annual PM_{2.5} NAAQS. See 40 CFR 81.339 (Pennsylvania).

On June 21, 2013, the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP) submitted, on behalf of Allegheny County, a formal revision to its State Implementation Plan (SIP). The SIP revision consisted of the 2006 24-hour PM_{2.5} NAAQS attainment plan for the Liberty-Clairton Area, which included among other things, an attainment demonstration, a 2007 base year emissions inventory, a reasonably available control measures (RACM) analysis, and a description of contingency measures.

On July 31, 2014, PADEP formally submitted a supplement to the attainment demonstration for the 2006 PM_{2.5} NAAQS for the Liberty-Clairton Area in order to include a request for findings of insignificance by Environmental Protection Agency (EPA) for motor vehicle emissions for nitrogen oxides (NO_x) and direct PM_{2.5}. Using emissions inventories and modeling already included as part of the June 21, 2013 SIP submittal, the supplemental SIP revision demonstrates that motor vehicle emissions for direct PM_{2.5} and NO_x are insignificant contributors to the air quality problem in the Liberty-Clairton Area for both the 1997 and 2006 PM_{2.5} NAAQS.

With this action, the EPA has taken a direct final action to approve two revisions to the Commonwealth of Pennsylvania (Pennsylvania) State Implementation Plan (SIP). The first revision consists of the 2007 base year emissions inventory for the Liberty-Clairton nonattainment area (hereafter “the Liberty-Clairton Area” or “the Area”) with respect the 2006 24-hour fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS or standard). The second revision consists of insignificance findings for the mobile source contribution of PM_{2.5} and nitrogen oxides (NO_x) emissions for the Liberty-Clairton Area for both the 1997 annual and 2006 24-hour PM_{2.5} standards.

On September 3, 2015, Allegheny County in a letter to PA DEP withdrew all remaining elements to the original SIP revision request dated June 21, 2013 except for the baseline emissions inventory and motor vehicle insignificance demonstration.

Base Year Emissions Inventory:

The 2007 base year emissions inventory for the Liberty-Clairton Area intends to satisfy the requirements of section 172 (c)(4) of the CAA for the 2006 24-hour PM_{2.5} NAAQS. The 2007 base year emissions inventory includes emissions estimates that cover the general source categories of point sources, area sources, non-road mobile sources, and on-road mobile sources. The pollutants that comprise the inventory are NO_x, volatile organic compounds (VOC), PM_{2.5}, coarse particles (PM₁₀), ammonia, and sulfur dioxide (SO₂). ACHD selected 2007 as the base year for the emissions inventory, in accordance with 40 CFR 51.1008(b).

The 2007 emissions inventory submitted is the most current accurate and comprehensive actual emissions inventory of direct PM_{2.5}, PM₁₀, NO_x, SO₂, VOC, and ammonia for the Liberty-Clairton Area with respect the 2006 24-hour PM_{2.5} NAAQS. The actual emissions were estimated based on pollutant emission factors and throughputs or capacities of each emission source. A summary of the Liberty-Clairton’s 2007 base year emissions inventory is provided in Table 1.

Table 1. 2007 Base Year Emissions Inventory for the Liberty-Clairton Area for the 2006 24-hour PM_{2.5} NAAQS (Tons/Year)

	PM _{2.5}	PM ₁₀	SO ₂	NO _x	VOC	Ammonia
Point Sources	946.6	1136.9	1741.3	4841.9	590.5	18.4
Area Sources	26.3	50.5	50.1	38.8	255.9	4.2
Nonroad Sources	15.0	15.9	17.2	437.9	86.6	0.2
Mobile Sources	9.9	10.4	2.1	274.3	172.5	4.7
Totals	997.8	1213.8	1810.9	5592.9	1105.6	27.5

EPA has reviewed the procedures and methodologies used by ACHD for the 2007 base year emissions inventory submitted as part of the June 21, 2013 SIP revision and finds the inventory approvable. Further analysis of the emissions inventory development can be found in technical support document (TSD) dated August 12, 2015 included as part of the docket for this rulemaking action.

Transportation Conformity Insignificance Determinations:

Transportation conformity is required under section 176(c) of the CAA to ensure that federally supported highway, transit projects, and other activities are consistent with (conform to) the purpose of the SIP. The CAA requires federal actions in nonattainment and maintenance areas to “conform to” the goals of SIP. This means that such actions will not cause or contribute to violations of a NAAQS; worsen the severity of an existing violation; or delay timely attainment of any NAAQS or any interim milestone. Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the Transportation Conformity Rule (40 CFR part 93, subpart A). Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state air quality and transportation agencies, EPA, FHWA, and FTA to demonstrate that their

metropolitan transportation plans and transportation improvement plans (TIPs) conform to applicable SIPs. This is typically determined by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (MVEBs) contained in a SIP.

For MVEBs to be approvable, they must meet, at a minimum, EPA's adequacy criteria found at 40 CFR 93.118(e)(4). However, the Transportation Conformity Rule at 40 CFR 93.109(f) allows areas to forgo establishment of a budget(s) where it is demonstrated that regional motor vehicle emissions for a particular pollutant or precursor pollutant are an insignificant contributor to the air quality problem in the area. The general criteria for insignificance determinations per 40 CFR 93.109(f) are based on a number of factors, including: (1) The percentage of motor vehicle emissions in context of the total SIP inventory; (2) the current state of air quality as determined by monitoring data for that NAAQS; (3) the absence of SIP motor vehicle control measures; and (4) historical trends and future projections of the growth of motor vehicle emissions in the area.

The Liberty-Clairton's attainment demonstration for the 2006 24-hour PM_{2.5} NAAQS submitted by the Commonwealth of Pennsylvania, on behalf of Allegheny County, included a request for EPA to make insignificance findings for NO_x and directly emitted PM_{2.5} for the Area for both the 1997 annual and 2006 24-hour PM_{2.5} NAAQS. Pursuant to Section 93.118(e)(4) and 93.109(f) of the Transportation Conformity Rule, EPA has reviewed the Commonwealth of Pennsylvania's justification for the findings of insignificance for direct PM_{2.5} and also for NO_x as a precursor of PM_{2.5} in the Liberty-Clairton Area for both the 1997 annual and 2006 24-hour PM_{2.5} NAAQS. EPA agrees with Pennsylvania's conclusion that on-road emissions of PM_{2.5} and NO_x in the Liberty-Clairton Area are insignificant for transportation conformity purposes for both NAAQS.

EPA based these findings on several factors: (1) The fact that the motor vehicle emissions constitute a low percentage of the total SIP inventory. In particular, for the 2007 base year, the direct PM onroad mobile source constitutes 0.99 percent (%) of the Liberty-Clairton Area's total PM_{2.5} emissions and decreases in the later analysis year to 0.88% (2014). For the 2007 base year, the NO_x onroad mobile source constitutes 4.9% of the Area's total NO_x emissions and decreases in the later analysis year to 3.07% (2014); (2) The fact that the Liberty-Clairton Area has been determined to attain the 1997 annual PM_{2.5} standard (October 25, 2013, 78 FR 63881) and the 2006 24-hour PM_{2.5} standard (July 10, 2015, 80 FR 39696), and continues to attain the standards with the most recent three years of complete, quality-assured monitoring data; (3) The absence of local on-road control measures; and (4) The continued downward trend, historically and in modeled future projections, of on-road NO_x and PM_{2.5} emissions.

With regard to on-road emissions of SO₂, VOC, and ammonia, Allegheny County did not provide an insignificance demonstration because it concluded, consistent with EPA's presumptions regarding these PM_{2.5} precursors, that the emissions of these precursors from motor vehicles are not significant contributors to the Liberty-Clairton Area's PM_{2.5} air quality problem. Therefore, EPA found adequate, and approved as SIP revision, Pennsylvania's insignificance determinations for the Liberty-Clairton Area with respect both the 1997 annual and 2006 24-hour PM_{2.5} standards. Additional information pertaining to the review of the motor

vehicle emission inventories can be found in the TSD dated August 27, 2015, as part of the docket for this final rulemaking action.

Final Action:

EPA has approved as a revision to the Pennsylvania SIP the Liberty-Clairton Area's 2007 base year emissions inventory for the 2006 24-hour PM_{2.5} NAAQS submitted as part of the June 21, 2013 SIP revision. EPA finds that the 2007 base year emissions inventory satisfies the requirements of 40 CFR 51.1008 and section 172(c)(3) of the CAA for the 2006 24-hour PM_{2.5} NAAQS for the Liberty-Clairton Area.

EPA has also found adequate and has also approved as a revision to the SIP Pennsylvania's determinations for both the 1997 annual and 2006 24-hour PM_{2.5} standards that onroad emissions of PM_{2.5} and NO_x are insignificant contributors to PM_{2.5} concentrations in the Liberty-Clairton Area for transportation conformity purposes, as submitted as part of the July 31, 2014 supplemental SIP revision. Upon the effective date of this direct final rulemaking action, the Liberty-Clairton Area is no longer required to perform a regional emissions analysis for directly emitted PM_{2.5}, or NO_x, as part of future PM_{2.5} conformity determinations for the 1997 annual and 2006 24-hour PM_{2.5} NAAQS.

This action only pertains to the approval of the 2007 base year emissions inventory to satisfy the requirement of section 172(c)(3) of the Clean Air Act and the transportation conformity insignificance findings to satisfy EPA's requirements at 40 CFR 93.118(e)(4) and 40 FR 93.109(f).

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