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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R03-OAR-2010-0391; FRL-9485-9]

Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Attainment Plan for the Pennsylvania Portion of the Philadelphia-Wilmington, Pennsylvania-New Jersey-Delaware 1997 Fine Particulate Matter Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to approve revisions to the Pennsylvania State Implementation Plan (SIP), which was submitted to EPA on April 12, 2010 to demonstrate attainment of the 1997 annual fine particulate matter ($PM_{2.5}$) national ambient air quality standard (NAAQS) for the Pennsylvania portion of the Philadelphia-Wilmington, Pennsylvania-New Jersey-Delaware (PA-NJ-DE) nonattainment area (Philadelphia area). This plan (herein called the "attainment plan") includes the Pennsylvania portion of the Philadelphia area's attainment demonstration and motor vehicle emission budgets (MVEBs) used for transportation conformity purposes. The attainment demonstration includes an analysis of reasonably available control measures (RACM) and reasonably available control technology (RACT), a base year emissions inventory, and contingency measures. The requirement for a reasonable further progress (RFP) plan is not required because Pennsylvania projected that attainment of the 1997 $PM_{2.5}$ NAAQS would have occurred in the Pennsylvania portion of the Philadelphia area by the attainment date, April 2010. This action is being taken in accordance with the Clean Air Act (CAA) and the Clean Air Fine Particulate Implementation Rule ($PM_{2.5}$ Implementation Rule) issued by EPA on April 25, 2007.

DATES: Written comments must be received on or before [insert date 30 days from date of publication].

ADDRESSES: Submit your comments, identified by Docket ID Number **EPA-R03-OAR-2010-0391** by one of the following methods:

A. www.regulations.gov. Follow the on-line instructions for submitting comments.

B. E-mail: fernandez.cristina@epa.gov.

C. Mail: **EPA-R03-OAR-2010-0391**, Cristina Fernandez, Associate Director, Office of Air Planning Program, Mailcode 3AP30, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103.

D. Hand Delivery: At the previously-listed EPA Region III address. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. **EPA-R03-OAR-2010-0391**. EPA's policy is that all comments received will be included in the public docket without change, and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA

will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the electronic docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, i.e., 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 either electronically in www.regulations.gov or in hard copy during normal business hours at the Air Protection Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. Copies of the State submittal are available at the Pennsylvania Department of Environmental Protection, Bureau of Air Quality Control, P.O. Box 8468, 400 Market Street, Harrisburg, Pennsylvania 17105.

FOR FURTHER INFORMATION CONTACT: Rose Quinto, (215) 814-2182, or by e-mail

at quinto.rose@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document, whenever "we," "us," or "our" is used, we mean EPA.

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I. What Action is EPA Proposing to Take?

EPA is proposing to approve Pennsylvania's SIP submission, which was submitted by the Pennsylvania Department of Environmental Protection (PADEP) to EPA on April 12, 2010 to demonstrate attainment of the 1997 annual $PM_{2.5}$ NAAQS for the Pennsylvania portion of the Philadelphia area (herein called the state's "$PM_{2.5}$ attainment plan"). This $PM_{2.5}$ attainment plan includes Pennsylvania's attainment demonstration and MVEBs used for transportation conformity purposes. The attainment demonstration includes a base year emissions inventory, an analysis of RACM/RACT, and contingency measures. RFP plan is not required because the Pennsylvania portion of the Philadelphia area demonstrated that attainment of the 1997 annual $PM_{2.5}$ NAAQS occurred by the attainment date, April 2010.

EPA has determined that the Pennsylvania's $PM_{2.5}$ attainment plan meets the applicable requirements of the CAA, as described in the $PM_{2.5}$ Implementation Rule issued by EPA on April 25, 2007 (72 FR 20586). EPA's analysis and findings are discussed in this proposed rulemaking. In addition, technical support documents (TSDs) for this proposal are available on line at www.regulations.gov, Docket No. **EPA-R03-OAR-2010-0391.** These TSDs provide additional explanation on EPA's analysis supporting this proposal.

II. What is the Background of EPA's Proposed Action?

A. Designation History

On July 18, 1997 (62 FR 36852), EPA established the 1997 $PM_{2.5}$ NAAQS, including an annual

standard of 15.0 micrograms per cubic meter ($\mu g/m^3$) based on a 3-year average of annual mean $PM_{2.5}$ concentrations and a 24-hour (or daily) standard of 65 $\mu g/m^3$ based on a 3-year average of the 98th percentile of 24-hour concentrations. EPA established these standards based on significant evidence and numerous health studies demonstrating that serious health effects are associated with exposures to $PM_{2.5}$.

Following promulgation of a new or revised NAAQS, EPA is required by the CAA to designate areas throughout the United States as attaining or not attaining the NAAQS; this designation process is described in section 107(d)(1) of the CAA. In 1999, EPA and State Air Quality Agencies initiated the monitoring process for the 1997 $PM_{2.5}$ NAAQS and by January 2001, established a complete set of air quality monitors. On January 5, 2005 (70 FR 944), EPA promulgated initial air quality designations for the 1997 $PM_{2.5}$ NAAQS, which became effective on April 5, 2005, based on air quality monitoring data for calendar years 2001-2003.

On April 14, 2005 (70 FR 19844), EPA promulgated a supplemental rule amending the Agency's initial designations, with the same effective date (April 5, 2005) as 70 FR 944. As a result of this supplemental rule, $PM_{2.5}$ nonattainment designations are in effect for 39 areas, comprising 208 counties within 20 states (and the District of Columbia) nationwide, with a combined population of about 88 million. The Pennsylvania portion of the Philadelphia area, which is the subject of this rulemaking, is included in the list of areas not attaining the 1997 annual $PM_{2.5}$ NAAQS. The Pennsylvania portion of the Philadelphia area consists of the following counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia.

It should be noted that on November 13, 2009 (74 FR 58688), EPA revised the existing designation tables in 40 CFR part 81.339 to clarify that the 1997 designations were for both the annual $PM_{2.5}$ NAAQS and the 24-hour $PM_{2.5}$ NAAQS. The Pennsylvania portion of the Philadelphia area was designated unclassifiable/attainment for the 24-hour $PM_{2.5}$ NAAQS.

B. Clean Air Fine Particle Implementation Rule

On April 25, 2007 (72 FR 20586), EPA issued the $PM_{2.5}$ Implementation Rule for the 1997 $PM_{2.5}$ NAAQS. The "$PM_{2.5}$ Implementation Rule" describes the CAA framework and requirements for developing SIPs for areas designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. An attainment plan must include a demonstration that a nonattainment area will meet the applicable NAAQS within the timeframe provided in the statute. This demonstration must include modeling (40 CFR 51.1007) that is performed in accordance with EPA modeling guidance (EPA-454/B-07-002, April 2007). It must also include supporting technical analyses and descriptions of all relevant adopted Federal, state, and local regulations and control measures that have been adopted in order to provide attainment of the 1997 $PM_{2.5}$ NAAQS by the proposed attainment date.

For the 1997 $PM_{2.5}$ NAAQS, an attainment plan must show that a nonattainment area will attain the 1997 $PM_{2.5}$ NAAQS as expeditiously as practicable, but within five years of designation (i.e. attainment date of April 2010 based on air quality data for 2007 through 2009). If the area is not expected to meet the NAAQS by April 2010, a state may request to extend the attainment date

by one to five years based on the severity of the nonattainment problem or the feasibility of implementing control measures (CAA section 172(a)(2)) in the specific area. For EPA to approve an extension of the attainment date beyond 2010, the state must provide an analysis to support the request and demonstrate that the attainment date is as expeditious as practicable for the area given the facts and circumstances of the area and consistent with the statutory criteria for an extension.

For each nonattainment area, the state must demonstrate that it has adopted all RACM, including all RACT for the appropriate emissions sources, needed to provide for attainment of the $PM_{2.5}$ standards in the specific nonattainment area "as expeditiously as practicable." The $PM_{2.5}$ Implementation Rule provided guidance for making these RACM/RACT determinations (See, Section IV.A.4 below). Any measures that are necessary to meet these requirements that are not already Federally promulgated or in an EPA-approved part of the state's SIP must be submitted as part of a state's attainment demonstration. Any state measures must meet the applicable statutory and regulatory requirements, and in particular, must be Federally enforceable.

The $PM_{2.5}$ Implementation Rule also included guidance on pollutants that states must address in their attainment plans. The CAA (section 302(g)) authorizes EPA to regulate criteria pollutants and their precursors. In the case of $PM_{2.5}$, the main chemical precursors are sulfur dioxide (SO_2), nitrogen oxides (NO_x), ammonia (NH_3), and volatile organic compounds (VOCs). The effect of reducing emissions of precursor pollutants that contribute to $PM_{2.5}$ concentrations varies by area, however, depending on $PM_{2.5}$ composition, emission levels, and other area-specific factors. For

this reason, the $PM_{2.5}$ Implementation Rule provided guidance recommending that states elect direct $PM_{2.5}$ emissions and the precursor that would be most effective for attaining the NAAQS within the specific area, based upon an appropriate technical demonstration.

In accordance with the $PM_{2.5}$ Implementation Rule, direct $PM_{2.5}$ emissions means "solid particles emitted directly from an air emissions source or activity, or gaseous emissions or liquid droplets from an air emissions source or activity which condense to form particulate matter at ambient temperatures. Direct $PM_{2.5}$ emissions include elemental carbon, directly emitted organic carbon (OC), directly emitted sulfate (SO_4), directly emitted nitrate (NO_3), and other inorganic particles (including but not limited to crustal material, metals, and sea salt)."

The $PM_{2.5}$ Implementation Rule requires all states to address SO_2 as a $PM_{2.5}$ attainment plan precursor and to evaluate SO_2 for possible control measures in all $PM_{2.5}$ nonattainment areas. States are required to address NO_X as a $PM_{2.5}$ attainment plan precursor and evaluate reasonable controls for NO_X in all $PM_{2.5}$ attainment plans, unless the state and EPA make a finding that NO_X emissions from sources in the state do not significantly contribute to $PM_{2.5}$ concentrations in the relevant nonattainment area.

Although current scientific information shows that certain VOC emissions are precursors to the formation of secondary organic aerosol, and significant progress has been made in understanding the role of gaseous organic material in the formation of organic particular matter (PM), this relationship remains complex. Further research and technical tools are needed to better

characterize emissions inventories for specific VOC compounds and to determine the extent of the contribution of specific VOC compounds to organic PM mass. Because of these factors, the $PM_{2.5}$ Implementation Rule did not require states to address VOCs as $PM_{2.5}$ attainment plan precursors and evaluate them for control measures, unless the state or EPA makes a finding that VOCs significantly contribute to a $PM_{2.5}$ nonattainment problem in the specific area or to other downwind air quality concerns.

The $PM_{2.5}$ Implementation Rule also describes the formation of particles related to NH_3 emissions, which is a complex, nonlinear process. Though recent studies have improved our understanding of the role of NH_3 in aerosol formation, ongoing research is needed to better describe the relationships between NH_3 emissions, PM concentrations, and related impacts. Also, area-specific data is needed to evaluate the effectiveness of reducing NH_3 emissions on reducing $PM_{2.5}$ concentrations in different areas, and to determine where NH_3 decreases may increase the acidity of particles and precipitation. For these reasons, in the $PM_{2.5}$ Implementation Rule, NH_3 is presumed not to be a $PM_{2.5}$ attainment plan precursor, meaning that the state is not required to address NH_3 in its attainment plan or evaluate sources of NH_3 emissions for reduction measures, unless the state or EPA makes a finding that NH_3 significantly contributes to a $PM_{2.5}$ nonattainment problem in the area or to other downwind air quality concerns.

The presumptive inclusion of NO_X, and the presumptive exclusion of VOC and NH_3 as attainment plan precursors can be reversed based on an acceptable technical demonstration for a particular nonattainment area by the state or EPA. Such a demonstration should include

information from multiple sources, including results of speciation data analyses, air quality modeling studies, chemical tracer studies, emission inventories, or special intensive measurement studies to evaluate specific atmospheric chemistry in an area (See, the $PM_{2.5}$ Implementation Rule for more information).

The $PM_{2.5}$ Implementation Rule also provided guidance for the other elements of a state's attainment plan, including, but not limited to, emission inventories, contingency measures, and MVEBs used for transportation conformity purposes.

There are, however, three aspects of the $PM_{2.5}$ Implementation Rule for which EPA received petitions requesting reconsideration. These pertain to the presumption or advance determination that compliance with the requirements of the Clean Air Interstate Rule (CAIR) automatically satisfies the requirements for RACT or RACM for NOx or SO_2 emissions from electric generating unit (EGU) sources participating in regional cap and trade programs; the suggestion in the preamble that the economic feasibility element of a RACT determination for EGUs should include consideration of whether the cost of a measure is reasonable in light of the benefits; and the policy described in the preamble of allowing certain emissions reductions from outside the nonattainment area to be credited as meeting the RFP requirement. EPA is granting these petitions and intends to undertake rulemaking to change these aspects of the $PM_{2.5}$ Implementation Rule. The attainment plan for the Pennsylvania portion of the Philadelphia area did not rely on any of these aspects of the rule.

C. Attaining Data Determination and Finding of Attainment

The data in Table 1 indicates that the Pennsylvania portion of the Philadelphia area is meeting the 1997 annual $PM_{2.5}$ NAAQS. In addition, Table 2 shows that the Philadelphia area continues to attain the 1997 annual $PM_{2.5}$ NAAQS by 2010. More detailed information can be found in the TSD entitled, "Technical Support Document for the Modeling Portion of the Commonwealth of Pennsylvania's Fine Particulate Matter State Implementation Plan," dated October 11, 2011, available on line at www.regulations.gov, Docket No. **EPA-R03-OAR-2010-0391.** However, this action does not determine that the Pennsylvania portion of the Philadelphia area has attained the 1997 annual $PM_{2.5}$ NAAQS and the information is included here only to support Pennsylvania's demonstration that the Pennsylvania portion of the Philadelphia area could meet the attainment date of April 5, 2010, and continues to attain based on the most recent data available. EPA plans to take action to formally determine the Pennsylvania portion of the Philadelphia area's attainment of the 1997 annual $PM_{2.5}$ NAAQS in a separate action.

Table 1. 2009 Annual Averaged $PM_{2.5}$ Design Value

County	Site Name	Site Number	Design Value ($\mu g/m^3$)
Bucks	Bristol	420170012	12.1
Chester	New Garden	420290100	12.4
Delaware	Chester	420450002	13.3
Montgomery	Norristown	420910013	11.3
Philadelphia	AMS Lab	421010004	12.9
Philadelphia	NE Airport	421010024	11.9
Philadelphia	Broad Street	421010047	13.5
Philadelphia	Elmwood	421010136	12.7

Table 2. 2008-2010 Monitored Annual Design Values

County	Site Name	Site Number	Design Value (µg/m^3)		
			2008	2009	2010
Bucks	Bristol	420170012	12.6	12.2	11.3
Chester	New Garden	420290100	13.4	13.9	13.8
Delaware	Chester	420450002	14.1	13.7	13.1
Montgomery	Norristown	420910013	12.3	11.7	10.5
Philadelphia	AMS Lab	421010004	13.4	12.5	11.5
Philadelphia	NE Airport	421010024	12.4	11.5	10.5
Philadelphia	Broad Street	421010047	14.5	13.0	11.9
Philadelphia	Elmwood	421010136	13.2	13.3	

III. What is Included in the Pennsylvania Attainment Plan?

In accordance with section 172(c) of the CAA and the $PM_{2.5}$ Implementation Rule, the attainment plan submitted on April 12, 2010 by PADEP for the Pennsylvania portion of the Philadelphia area included: (1) an emissions inventory for the plan's base year (2002); (2) an attainment demonstration; and (3) MVEBs for the attainment year. The attainment demonstration includes: (a) technical analyses that locate, identify, and quantify sources of emissions contributing to violations of the 1997 annual $PM_{2.5}$ NAAQS; (b) analyses of future year emissions reductions and air quality improvements expected to result from national and local programs from new measures to meet RACM/RACT; (c) adopted emission reduction measures with schedules for implementation; and (d) contingency measures for NOx and SO_2 to be implemented if the area did not meet RFP or did not attain the standard by the attainment date.

To analyze future year emissions reductions and air quality improvements, Pennsylvania used local, regional, and national modeling analyses that have been developed to support Federal and local emission reduction programs. This modeling was performed in accordance with EPA's "Guidance on the Use of Models and Other Analyses for Determining Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze" (EPA-454/B-07-002, April 2007).

IV. What is EPA's Analysis of the Pennsylvania Attainment Plan Submittal?

A. Attainment Demonstration

1. Pollutants Addressed

In accordance with policies described in the $PM_{2.5}$ Implementation Rule, Pennsylvania's $PM_{2.5}$ attainment plan evaluates emissions of direct $PM_{2.5}$, SO_2, and NOx in the Pennsylvania portion of the Philadelphia area. Because of uncertainties regarding NH_3 emission inventories and the efficacy of ammonia control technologies as noted earlier in this notice, the final rule sets forth the presumption that NH_3 is not a $PM_{2.5}$ precursor and that the states are not required to address NH_3 in their attainment plan. Similarly, VOC emissions are presumed not to be an attainment plan precursor because of uncertainties regarding the role of VOC in secondary organic aerosol formation. Pennsylvania's attainment plan does not reverse this presumption.

2. Emissions Inventory Requirements

States are required under section 172(c)(3) of the CAA to develop emissions inventories of point, area, onroad mobile, and nonroad mobile sources for their attainment demonstrations.

These inventories provide a detailed accounting of all emissions and emission sources by precursor or pollutant. In addition, inventories are used to model air quality to demonstrate that attainment of the 1997 $PM_{2.5}$ NAAQS as expeditiously as practicable, and if an attainment extension beyond 2010 is needed to support the need for such an extension. Emissions inventory guidance was provided in the April 1999 document "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations," (EPA–454/R–99–006), which was updated in November 2005 (EPA–454/R–05–001). Emissions reporting requirements were provided in the 2002 Consolidated Emissions Reporting Rule (CERR) (67 FR 39602). On December 17, 2008 (73 FR 76539), EPA promulgated the Air Emissions Reporting Requirements (AERR) to update emissions reporting requirements in the CERR, and to harmonize, consolidate and simplify data reporting by states.

In accordance with the AERR and the November 2005 guidance, the $PM_{2.5}$ Implementation Rule required states to submit inventory information on directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors and any additional inventory information needed to support an attainment demonstration.

The SIP base year inventory is the primary inventory from which other inventories (3-year cycle inventories, RFP inventories, modeling inventories) are derived. The CAA calls for state, local, and tribal agencies to ensure that the base year inventory is comprehensive, accurate, and current for all actual emissions (EPA-454/R-05-001). The base year inventory includes emissions estimates from stationary point and nonpoint sources, onroad mobile sources, and nonroad mobile sources. For the $PM_{2.5}$ NAAQS, the pollutants to be inventoried are primary emissions

(including condensables) of PM_{10} and $PM_{2.5}$, and emissions of SO_2, NH_3, VOC, and NOx, and are reported as actual annual weekday emissions. The State Air Agencies defined 2002 as the base year inventory. The pollutants inventoried for the Pennsylvania portion of Philadelphia area

included PM_{10}, $PM_{2.5}$, SO_2, NH_3, VOC, and NOx. Information on the manmade sources of direct PM and its potential precursors, SO_2, NH_3, VOC, and NOx was compiled for:

Stationary sources (or point sources), which are sources for which PADEP collects individual emissions-related information, generally represent major stationary sources but may be smaller. The point source data for 2002 is derived from the Air Information Management System/environment, Facility, Application, Compliance Tracking System (AIMS/eFACTS). The AIMS/eFACTS database is comprised of sources identified and inventoried by PADEP's regional and central offices through permitting, field inspections, and surveys.

Area sources, which are industrial, commercial, and residential sources too small or too numerous to be handled individually, include, but are not limited, to commercial and residential open burning, architectural and industrial maintenance coatings applications and clean-up, consumer product use, and vehicle refueling at service stations. Where there is overlap between stationary point sources and stationary area sources, the area source values are adjusted to remove any double counting. PADEP's inventory contained estimations of emissions by multiplying an emission factor by an indicator or activity level for each category at the county

level. These emissions are calculated on an annual basis since the activity data are generally available on an annual basis. Area source estimates were provided by source classification code (SCC).

Highway vehicles, which include passenger cars and light-duty trucks, other trucks, buses, and motorcycles, are onroad mobile source emissions inventory that was developed using the most current version of EPA's highway mobile source emissions model MOBILE6.2. PADEP also used PPSUITE, an enhanced version of the Post Processor for Air Quality software systems used for previous inventory submissions in Pennsylvania. The Pennsylvania Department of Transportation (PennDOT) provided estimates of vehicles miles traveled (VMT) by vehicle type and roadway type. PADEP provided sample MOBILE6.2 input files and estimates for review.

Nonroad sources, which encompass a diverse collection of engines, including, but not limited to, outdoor power equipment, recreational vehicles, farm and construction machinery, lawn and garden equipment, industrial equipment, recreational marine vessels, commercial marine vessels, locomotives, ships, and aircraft were estimated using the EPA NONROAD 2005 model.

The emissions inventory for the base year, 2002, was developed in accordance with EPA guidance, "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards and Regional Haze Regulations, EPA-454/R-05-001, August 2005, updated November 2005." Table 3 summarizes the emissions for 2002.

Table 3. 2002 Annual Emissions (Tons per Year)

Philadelphia area 2002	**$PM_{2.5}$**	**PM_{10}**	**SO_2**	**NOx**	**VOC**	**NH_3**
Stationary Point Sources	2139	3430	23745	22124	8183	256
Area Sources	10020	55224	13153	13029	59227	4821
Highway Vehicle Sources	1033	1492	1920	63476	33974	2614
Nonroad Sources	1535	1611	1640	21619	21589	14
Total	14727	61758	40459	120248	122973	7705

The review and evaluation of the methods used for the emissions inventory submitted by Pennsylvania are found in the attainment plan submittal (section III) and a TSD entitled "Technical Support Document for the Pennsylvania portion of the Philadelphia-Wilmington, PA-NJ-DE $PM_{2.5}$ Noanattainment Area: State Implementation Plan Attainment Demonstration and Base Year Inventory," dated October 11, 2011, available on line at www.regulations.gov, Docket No. **EPA-R03-OAR-2010-0391.** EPA is proposing to approve the 2002 base year emissions inventory for the Pennsylvania portion of the Philadelphia area as meeting the requirements of section 172(c)(3) of the CAA.

$PM_{2.5}$ is comprised of filterable and condensable emissions. Condensable particulate matter (CPM) can comprise a significant percentage of direct $PM_{2.5}$ emissions from certain sources, and are required to be included in national emission inventories based on emission factors. Test Methods 201A and 202 are available for source-specific measurement of condensable emissions. However, the $PM_{2.5}$ Implementation Rule acknowledged that there were issues and concerns related to availability and implementation of these test methods as well as uncertainties in existing data for condensable $PM_{2.5}$. In recognition of these concerns, EPA established a

transition period during which EPA could assess possible revisions to available test methods and to allow time for states to update emissions inventories as needed to address direct $PM_{2.5}$, including condensable emissions. Because of the time required for this assessment, EPA recognized that states would be limited in how to effectively address CPM emissions, and established a period of transition, up to January 1, 2011, during which state submissions for $PM_{2.5}$ were not required to address CPM emissions. Amendments to these test methods were proposed on March 25, 2009 (74 FR 12969), and finalized on December 21, 2010 (75 FR 80118). The amendments to Method 201A added a particle-sizing device for $PM_{2.5}$ sampling, and the amendments to Method 202 revised the sample collection and recovery procedures of the method to reduce the formation of reaction artifacts that could lead to inaccurate measurements of CPM emissions.

The period of transition for establishing emissions limits for condensable direct $PM_{2.5}$ ended on January 1, 2011. $PM_{2.5}$ submissions made during the transition period are not required to address CPM emissions; however, states must address the control of direct $PM_{2.5}$ emissions, including condensable emissions, with any new action taken after this January 1, 2011. Pennsylvania submitted the Pennsylvania portion of the Philadelphia area attainment plan prior to January 1, 2011 and did not consider condensables.

In July 2008, EarthJustice filed a petition requesting reconsideration of EPA's transition period for CPM emissions provided in the $PM_{2.5}$ Implementation Rule. In January 2009, EPA decided to allow states that have not previously addressed CPM to continue to exclude CPM for

Prevention of Significant Deterioration (PSD) permitting during the transition period. Today's action reflects a review of Pennsylvania's submittal based on current EPA guidance as described in the $PM_{2.5}$ Implementation Rule.

3. Modeling

All attainment demonstrations must include modeling that is performed in accordance with EPA's "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze" (EPA-454/B-07-002, April 2007). Modeling may be based on national (e.g., EPA), regional (e.g., Ozone Transport Commission), local modeling, or a combination thereof, if appropriate. A brief description of modeling used to support Pennsylvania's attainment demonstration follows. More detailed information can be found in the TSD entitled, "Technical Support Document for the Modeling Portion of the Commonwealth of Pennsylvania's Fine Particulate Matter State Implementation Plan," dated October 11, 2011, available on line at www.regulations.gov, Docket number **EPA-R03-OAR-2011-0391**. The Philadelphia area's attainment plan addressed the following components of a modeled attainment demonstration.

a. Conceptual Description of the Problem

A conceptual model describes how weather patterns affect the formation and transport of $PM_{2.5}$, accounting for emissions and photochemistry. A conceptual model for the Philadelphia area's attainment plan is described in a document prepared by the Northeast States for Coordinated Air Use Management (NESCAUM), "The Nature of the Fine Particle and Regional Haze Air Quality

Problems in the Mid-Atlantic Northeast Visibility Union (MANE-VU) Region: A Conceptual Description (NESCAUM), November 2006," for use by the Ozone Transport Commission (OTC) member states which provides the conceptual description of $PM_{2.5}$ issues in the OTC states and is consistent with EPA's guidance.

b. The Model Used in the Attainment Demonstration

By agreement of OTC, the New York State Department of Environmental Conservation (NYSDEC) ran the Community Multi-scale Air Quality Model (CMAQ) for the states in the northeast ozone transport region that includes Pennsylvania. EPA agrees CMAQ is appropriate for this modeling demonstration. The inputs of the model are described in section V of the attainment plan submittal.

c. Meteorological Time Periods Used in the Modeling

Since the Philadelphia area's attainment demonstration used a resource intensive photochemical grid model, EPA accepts the use of single, recent representative year to be used for an annual simulation. Two factors were used in selecting 2002 as the representative year. The observed annual mean concentrations of $PM_{2.5}$ are close to the 3-year observed design value at all, or most monitoring sites, and the pattern of quarterly mean values is similar to the pattern of quarterly mean concentrations averaged over 3 years.

d. Meteorological Data Used in the Air Quality Model

The OTC modeling committee decided to use a prognostic meteorological model that provides life-like meteorological inputs to the photochemical grid model. The Pennsylvania State University/National Center for Atmospheric Research Mesoscale Meteorological Model (MM5) version 3.6 was chosen for the modeling analysis. The MM5 model provides a reasonable representation of weather conditions at the surface and aloft.

e. Domain of the Model, Horizontal/Vertical Resolution and the Initial and Boundary Conditions

The modeling domain extends from Maine to Florida and out in the Atlantic Ocean on the east and west to the Mississippi River. The size of the modeling domain was made large enough to include all emission sources that affect $PM_{2.5}$ concentration in the northeastern United States. Even this boundary is defined by a larger photochemical modeling domain that covers much of North America. Over the northeastern United States, the model used 12 kilometer grid cells. The Pennsylvania portion of the Philadelphia area is included in the 12 kilometer grid cell area. The OTC Modeling Committee used a 12-kilometer grid size for the areas in and near its states to provide a fine enough grid resolution to adequately capture the PM patterns experienced in the ozone transport region (OTR). Outside the local areas the grid resolution used in the modeling is 36 kilometers. The selection of model domains and horizontal grid resolution was deemed acceptable to EPA.

Vertical resolution is the number of layers and the size of each layer in the model. The layers in the photochemical grid model were set up to be compatible with the model that produced

weather conditions for the photochemical grid model. The vertical resolution used in the modeling exercise followed EPA's modeling guidance and therefore adequately represents the atmosphere where $PM_{2.5}$ is emitted, forms and is transported.

f. Emissions Used in the Air Quality Model

The emissions data for 2002 were generated by individual states within the OTR and assembled and processed through Mid-Atlantic Northeast Visibility Union (MANE-VU), a Regional Planning Organization (RPO). These emissions were then processed by NYSDEC using the sparse matrix operator kernel emissions (SMOKE) emissions processor to provide CMAQ compatible inputs. The 2002 emissions for the non-OTR areas within the modeling domain were obtained from the corresponding RPOs and were processed using SMOKE, in manner similar to that of the OTR emissions. The OTR states, through MANE-VU, contracted MACTEC Federal Programs (called Contractor) to develop 2009, 2012 and 2018 inventories based on 2002 inventories that the states had previously developed for the base-year model work. The Contractor, in consultation with the states, developed the necessary growth and control factors and applied to the 2002 inventory.

g. Base Case Run Model Performance Evaluation

NYSDEC performed a model evaluation for the OTC to determine how well CMAQ reproduced the 2002 $PM_{2.5}$ concentrations. CMAQ was employed to simulate $PM_{2.5}$ for the calendar year 2002. A review of $PM_{2.5}$ and its individual species was conducted for the study domain. Several observations were made with respect to model performance: 1) approximately 80 – 90 percent

of organic mass (OM) is in the primary fraction; 2) CMAQ captures seasonal variation in SO_4 well; 3) CMAQ appears to overestimate primary $PM_{2.5}$ components, especially during colder months; and 4) CMAQ appears to underestimate secondary OM during the summer.

These issues are not of great regulatory concern since attainment tests are based on the application of relative response factors. Therefore, the regional and local model performance is acceptable for $PM_{2.5}$. While there are some differences between the spatial data between sub-regions, there is nothing to suggest a tendency for the model to respond in a systematically different manner between regions. Examination of the statistical metrics by sub-region confirms the absence of significant performance problems arising in one area but not in another, building confidence that the CMAQ modeling system is operating consistently across the full OTC domain. This confidence in the modeling results allows for the modeling system to be used to support the attainment plan to meet the 1997 annual $PM_{2.5}$ NAAQS.

h. 2009 Control Case Modeling and Modeled Attainment Test

As previously mentioned, the Pennsylvania portion of the Philadelphia area has an attainment date of April 5, 2010. The $PM_{2.5}$ NAAQS include an annual standard of 15 $\mu g/m^3$ based on the 3-year average of annual mean $PM_{2.5}$ concentrations. The purpose of a modeling assessment is to determine if control strategies currently being implemented ("on the books") will lead to attainment of the annual average NAAQS for $PM_{2.5}$ by 2009. The modeling is applied in a relative sense, similar to the 8-hour ozone attainment test. However, the $PM_{2.5}$ attainment test is more complicated and reflects the fact that $PM_{2.5}$ is a mixture. In the test, ambient $PM_{2.5}$ is

divided into major components, with a separate relative response factor (RRF) and future design value (DVF) calculated for each of the $PM_{2.5}$ components. Since the attainment test is calculated on a per species basis, the attainment test for $PM_{2.5}$ is referred to as the Speciated Modeled Attainment Test (SMAT).

Table 4 presents the results of the annual SMAT results for the Philadelphia area. The SMAT results demonstrate that the projected average annual arithmetic mean $PM_{2.5}$ concentration calculated at each Federal Reference Method (FRM) monitor attains the annual $PM_{2.5}$ NAAQS. Specifically, all calculations are less than15 $\mu g/m^3$. Table 4 presents the results of the annual SMAT results for a suite of regional modeling runs conducted by OTC each representing OTB/OTW – "On the Books, On the Way" control measures. All runs demonstrate compliance with the annual $PM_{2.5}$ NAAQS.

Table 4. Annual SMAT Results for Philadelphia-Wilmington, PA-NJ-DE $PM_{2.5}$ Nonattainment Area On-The-Books-On-The-Way Control Measures

AIRS ID	Site Name	County	State	2000-2004 Baseline Design Value				2009 DVF
				Q1	Q2	Q3	Q4	
420170012	Bristol	Bucks	PA	14.14	13.69	14.73	13.85	12.1
420290100	New Garden	Chester	PA	14.39	14.73	16.36	13.76	12.4
420450002	Chester	Delaware	PA	15.07	15.96	16.34	13.74	13.3
420910013	Norristown	Montgomery	PA	12.68	13.62	13.96	12.34	11.3
421010004	AMS Lab	Philadelphia	PA	15.99	14.01	15.95	13.82	12.9
421010024	NE Airport	Philadelphia	PA	13.58	13.63	14.95	12.96	11.9
421010047	Broad Street	Philadelphia	PA	16.59	16.45	15.80	15.37	13.5
421010136	Elmwood	Philadelphia	PA	15.70	14.20	15.27	12.99	12.7
100031003	Bellefonte	New Castle	DE	14.87	15.16	15.50	13.13	12.6
100031007	Lums Pond	New Castle	DE	13.16	14.37	16.05	10.66	11.3
100031012	Newark	New Castle	DE	15.27	14.91	16.53	13.14	12.6
100032004	MLK	New Castle	DE	16.41	15.40	17.61	14.04	13.3
340070003	Camden	Camden	NJ	13.99	14.54	15.76	12.47	12.3
340071007	Pennsauken	Camden	NJ	13.99	14.00	14.75	13.59	12.3
340155001	Gibbstown	Gloucester	NJ	13.92	13.43	15.08	11.39	11.7

In summary, the basic photochemical grid modeling, presented in the Philadelphia area attainment plan, used the methods recommended in EPA's modeling guidance. When EPA's attainment test is applied to the modeling results, the 2009 annual-average $PM_{2.5}$ design value is predicted to be 13.5μg/m^3 in the Philadelphia area. Therefore, based on EPA's modeled attainment test, the Pennsylvania portion of the Philadelphia area reached attainment of the annual average $PM_{2.5}$ standard in 2009 before the attainment date of April 5, 2010.

i. Supplemental Analyses and Weight of Evidence (WOE) Determination

EPA's modeling guidance states that additional analyses are recommended to determine if attainment will be likely, even if the modeled attainment test is "passed." The guidance recommends supplementary analyses in all cases. EPA's modeling guidance describes how to use a photochemical grid model and additional analytical methods to complete a WOE analysis

to estimate if emissions control strategies will lead to attainment. A WOE analysis is a supporting analysis that helps to determine if the results of the photochemical modeling system are correctly (or not correctly) predicting future air quality.

All models, including the CMAQ model have inherent uncertainties. Over or under prediction may result from uncertainties associated with emission inventories, meteorological data, and representation of $PM_{2.5}$ chemistry in the model. Therefore, EPA modeling guidance provides for other evidence to address these model uncertainties so that proper assessment of the probability to attain the applicable standards can be made. EPA modeling guidance states that those modeling analyses that show that attainment with the NAAQS will be reached in the future with some margin of safety (i.e., estimated concentrations below 14.5 $\mu g/m^3$ for annual $PM_{2.5}$ and 62 $\mu g/m^3$ for 24-hour $PM_{2.5}$) need more limited supporting material.

Due to the fact that the modeling results presented in Table 4 fall below the aforementioned "weight of evidence" thresholds established by EPA, a limited supplemental analysis was deemed necessary to support the 2009 attainment demonstration. PADEP's supporting evidence includes a brief summary of the modeling demonstration, recent trends in the Philadelphia area's monitoring data and a brief analysis of some of the largest SO_2 sources within the nonattainment area.

4. Reasonably Available Control Measures/Reasonably Available Control Technology

a. Requirements for RACM/RACT

CAA section 172(c) (1) requires that each attainment plan "provide for the implementation of all RACM as expeditiously as practicable, including such reductions in emissions from the existing sources in the area as may be obtained through the adoption, at a minimum, of RACT, and shall provide for attainment of the national primary ambient air quality standards." EPA interprets RACM including RACT under section 172 as measures that a state finds are both reasonably available and contribute to attainment as expeditiously are practicable in the nonattainment area. Thus, what constitutes RACM or RACT in a $PM_{2.5}$ nonattainment area is closely tied to the expeditious attainment demonstration of the plan. See, 40 CFR section 51.1010; 72 FR 20586 at 20612.

States are required to evaluate RACM/RACT for direct $PM_{2.5}$ emissions and all of the area's attainment plan precursors. See, 40 CFR section 51.1002 (c); 72 FR 20586 at 20589 - 97. Consistent with the guidance provided for the $PM_{2.5}$ Implementation Rule, a state initially must evaluate RACM/RACT for sources that emit direct $PM_{2.5}$, SO_2, and NOx. A state may establish with an appropriate demonstration that it should not regulate NOx in the specific nonattainment area, so it could thereby forgo evaluation of RACM/RACT for NOx. Because EPA concluded that VOC and NH_3 are presumptively not regulatory precursors for $PM_{2.5}$, unless the state or EPA determines that it is necessary to regulate them in a specific nonattainment area, the state is not required to evaluate RACM/RACT for sources of VOC or NH_3 unless there is a determination supported by an appropriate demonstration that such emissions need to be regulated for expeditious attainment of the NAAQS in the specific area.

For $PM_{2.5}$ attainment plans, the $PM_{2.5}$ Implementation Rule requires a combined approach to RACM and RACT under subpart 1 of Part D of the CAA. Subpart 1, unlike subparts 2 and 4, does not identify specific source categories for which EPA must issue control technique documents or guidelines, or identify specific source categories for state and EPA evaluation during attainment plan development. See, 72 FR 20586 at 20610. Rather, under subpart 1, EPA considers RACT to be part of an area's overall RACM obligation consistent with the section 172 definition. Because of the variable nature of the $PM_{2.5}$ problem in different nonattainment areas which may require states to develop attainment plans that address widely disparate circumstances, EPA determined not only that states should have flexibility with respect to RACM/RACT controls, but also that in areas needing significant emission reductions, RACM/RACT controls on smaller sources may be necessary to reach attainment as expeditiously as practicable. See, 72 FR 20586 at 20612, 20615. Thus, under the $PM_{2.5}$ Implementation Rule, RACM and RACT are those reasonably available measures that contribute to attainment as
expeditiously as practicable in the specific nonattainment area. See, 40 CFR section 51.1010; 72 FR 20586 at 20612.

Specifically, the $PM_{2.5}$ Implementation Rule requires that attainment plans include the list of measures that a state considered and information sufficient to show that the state met all requirements for the determination of what constitutes RACM/RACT in a specific nonattainment area. See, 40 CFR section 51.1010(a). In addition, the $PM_{2.5}$ Implementation Rule requires that the state, in determining whether a particular emissions reduction measure or set of measures

must be adopted as RACM/RACT, consider the cumulative impact of implementing the available measures and to adopt as RACM/RACT any potential measures that are reasonably available considering technological and economic feasibility if, considered collectively, they would advance the attainment date by one year or more. If a measure or measures is not necessary for expeditious attainment of the NAAQS in the area, then by definition that measure is not RACM/RACT for purposes of the 1997 $PM_{2.5}$ NAAQS in that area. Any measures that are necessary to meet these requirements which are not already either Federally promulgated, part of the state's SIP, or otherwise creditable in SIPs must be submitted in enforceable form as part of a state's attainment plan for the area. See, 72 FR 20586 at 20614.

Guidance provided in the $PM_{2.5}$ Implementation Rule for evaluating RACM/RACT level controls for an area also indicated that there could be flexibility with respect to those areas that were predicted to attain the 1997 $PM_{2.5}$ NAAQS within five years of designation as a result of existing national or local measures. See, 72 FR 20586 at 20612. In such circumstances, EPA indicated that the state may conduct a more limited RACM/RACT analysis that does not involve additional air quality modeling. Moreover, the RACM/RACT analysis for such area would focus on a review of reasonably available measures, the estimation of potential emissions reductions, and the evaluation of the time needed to implement the measures. Thus, the $PM_{2.5}$ Implementation Rule guidance recommended that not all areas would need to conduct as rigorous an analysis, and suggested that a less rigorous analysis would be needed for those areas expected to attain within the initial five years from designation as a nonattainment area for the 1997 $PM_{2.5}$ NAAQS. A more comprehensive discussion of the RACM/RACT requirement for

$PM_{2.5}$ attainment plans and EPA's guidance for it can be found in the $PM_{2.5}$ Implementation Rule preamble. See, 72 FR 20586 at 20609 – 20633.

b. Pennsylvania's Analysis of Pollutants and Sources Pennsylvania Portion of the Philadelphia Area

Based upon the emissions inventory for the area, Pennsylvania determined that it would be appropriate to evaluate sources of $PM_{2.5}$, SO_2, and NOx located in the nonattainment area for potential control as RACM/RACT. Pennsylvania did not determine that controls of sources of VOC or NH_3 would be necessary for expeditious attainment of the NAAQS in this area, nor does EPA believe that there is a need to do so.

After evaluating which pollutants should be addressed in the attainment plan, Pennsylvania identified all source categories of those emissions located within the nonattainment area to determine available controls that could bring the area into attainment as expeditiously as possible. See, section IV.B of the attainment plan submittal. Based on the emissions inventory and other information, Pennsylvania identified the following source categories as sources that should be evaluated for controls: consumer products; portable fuel containers; adhesives and sealants application; diesel engine chip reflash; cutback and emulsified asphalt paving; cement kilns; glass furnaces; industrial, commercial, and institutional (ICI) boilers; regional fuels; and electric generating units (EGUs).

The attainment plan submittal contains the Ozone Transport Commission (OTC) report entitled,

"Identification and Evaluation of Candidate Control Measures, Final Technical Support Document (MACTEC, February 2007)." This final report contains detailed information about the process and includes tables summarizing the emission reduction potential of each control measure by source category and projection year. Pennsylvania also participated in an assessment of control measures for pollutants and sources affecting visibility though the MANE-VU regional haze process. MANE-VU developed a list of control measures for consideration and analysis: coal and oil-fired EGUs; point and area source industrial, commercial and institutional boilers; cement kilns; lime kilns; the use of heating oil; and residential wood combustion and open burning.

The attainment plan submittal, contains the final report entitled, "Assessment of Reasonable Progress for Regional Haze in MANE-VU Class I Areas (MACTEC, July 2000)," from the MANE-VU control measure assessment project. This report presents the results of an analysis of the economic and environmental impacts of the potential scenarios that could be implemented by MANE-VU states to reduce emissions from selected source categories in order to make reasonable progress toward meeting visibility improvement goals.

In accordance with 40 CFR 51.1010, a SIP revision for a $PM_{2.5}$ nonattainment area is required to demonstrate that all RACM, including RACT stationary sources necessary to demonstrate attainment as expeditiously as practicable have been adopted. The cumulative impact of implementing available measures must be considered in determining whether a particular emission reduction measure or set of measures is required to be adopted as RACM. Potential

measures that are reasonably available considering technical and economic feasibility must be adopted as RACM if, considered collectively, they would advance the attainment date by one year or more. Since the Pennsylvania portion of the Philadelphia area attained at the end of 2009, any RACM measures need to be in effect in 2008. PADEP determined that there are no additional control measures that could be adopted by January 1, 2008. In addition, existing measures and measures planned for implementation by 2009, enabled the Philadelphia area to attain the 1997 $PM_{2.5}$ NAAQS. Therefore, no further actions on RACM or RACT are warranted.

c. Pennsylvania's Evaluation of RACM/RACT Control Measures for the Pennsylvania Portion of the Philadelphia Area.

In accordance with section 172 of the CAA, the Pennsylvania portion of the Philadelphia area has adopted all RACM, including RACT, needed to attain the standards "as expeditiously as practicable." Pennsylvania's demonstration for attaining the 1997 $PM_{2.5}$ NAAQS in the Pennsylvania portion of the Philadelphia area is based on the following enforceable measures: small sources of NOx, cement kilns and large stationary internal combustion engines; new source review programs; Federal standards for hazardous air pollutants; source surveillance; Federal Motor Vehicle Control Programs and Pennsylvania Clean Vehicle Program for passenger vehicles and light-duty trucks and cleaner gasoline; reformulated gasoline; heavy-duty diesel control programs; vehicle emission inspection/maintenance program; low sulfur gasoline; diesel vehicle idling restrictions; and nonroad sources regulations.

Although VOC is not a regulated $PM_{2.5}$ precursor for the Philadelphia area, VOC control

measures approved by EPA were included in the modeling associated with this attainment plan: portable fuel containers (December 8, 2004, 69 FR 70893); consumer products (December 8, 2004, 69 FR 70895); and architectural and industrial maintenance (AIM) coatings (November 23, 2004, 69 FR 69080).

d. Proposed Action on RACM/RACT Demonstration and Control Strategy

EPA is proposing to approve Pennsylvania's evaluation of RACM/RACT control measures for the Pennsylvania portion of the Philadelphia area. As noted above, the most current monitoring data for this area indicates that it is attaining the 1997 $PM_{2.5}$ NAAQS. EPA's guidance for the $PM_{2.5}$ Implementation Rule recommended that if an area was predicted through the attainment plan to attain the standard within five years after designation, then the state could submit a more limited RACM/RACT analysis and the state could elect not to do additional modeling.

In light of the fact that the Pennsylvania portion of the Philadelphia area is now attaining the standards, EPA proposes to conclude that the attainment plan meets the RACM/RACT requirements of the $PM_{2.5}$ Implementation Rule, and that the level of control in the State's attainment plan constitutes RACM/RACT for purposes of the 1997 $PM_{2.5}$ NAAQS. Because the $PM_{2.5}$ Implementation Rule defines RACM/RACT as that level of control that is necessary to bring the area into attainment, the current level of Federally enforceable controls on sources located within the area is by definition RACM/RACT for this area for this purpose.

5. Reasonable Further Progress

Section 172(c)(2) of the CAA requires that attainment plans include RFP to achieve steady progress toward meeting air quality standards by showing generally linear progress toward attainment. The $PM_{2.5}$ Implementation Rule set forth that an area that demonstrates attainment by 2010 will be considered to have satisfied the RFP requirement and need not submit any additional material to satisfy the RFP requirement. The EPA views the attainment demonstration as also demonstrating that the area is making reasonable further progress toward attainment. A state is required to submit a separate RFP plan for any area for which the state seeks an extension of the attainment date beyond 2010. The RFP plan is required to provide emission reductions such that emissions in 2009 represent generally linear progress from the 2002 baseline year to the attainment year. The Pennsylvania portion of the Philadelphia area attained by 2010, and has therefore met the RFP requirements.

6. Contingency Measures

In accordance with section 172(c)(9) of the CAA, the $PM_{2.5}$ Implementation Rule requires that $PM_{2.5}$ attainment demonstrations include contingency measures. These measures must be fully adopted and should contain trigger mechanisms and an implementation schedule. In addition, they should be measures not already included in the SIP control strategy and should provide for emission reductions equivalent to one year of RFP. Contingency measures are implemented if RFP targets are not achieved, or if attainment is not realized by the attainment date. Where an area has already achieved attainment by the attainment date, it has no need to rely on

contingency measures to come into attainment or to make further progress towards attainment. However, in accordance with section 110(k)(2) of the CAA, EPA must take action on the contingency measures that were submitted by Pennsylvania. The attainment plan for the Pennsylvania portion of the Philadelphia area includes contingency measures to be implemented if the area fails to attain by its attainment date. The following describes the specific control measures that are anticipated to be in place in order to bring the area back into attainment should a violation occur.

The Diesel-Powered Commercial Motor Vehicle Idling Act (Act 124) went into effect on February 6, 2009. PADEP estimates 50 percent of all long duration idling for Class 8 trucks will be eliminated in 2010 when the temperature exemption for sleeper truck rest expires. Statewide emission reductions are estimated to be 1610 tons, 45 tons and 30 tons per year for NOx, VOC and $PM_{2.5}$, respectively. PADEP will also utilize enhanced enforcement to obtain additional emission reductions.

Significant additional reductions in NOx, direct $PM_{2.5}$ and SO_2 emissions will occur in emissions from highway and nonmobile sources after 2009. In addition, NOx controls for cement kilns and glass furnaces were approved by EPA on July 19, 2011 (76 FR 42258) and August 22, 2011 (76 FR 52283), respectively. Furthermore, $PM_{2.5}$ control from the operation of outdoor wood-fired boilers was approved by EPA on September 20, 2011 (76 FR 58114). Sulfur limits for fuel oil (home heating oil and residential oil) are anticipated to be adopted later. Regulations to reduce VOC emissions are also in development, including controls on the manufacture and use of

adhesives, primers and sealants and regulations incorporating the Control Technique Guidelines issued by EPA in 2006, 2007 and 2008.

As required, these measures were fully adopted rules or control measures that were ready to be implemented quickly upon failure of the area to attain, were in addition to those measures otherwise relied upon for attainment, had trigger mechanisms and a schedule for implementation, and were at the level of reductions equal to at least one year's worth of reductions needed for attainment in the area. EPA finds that the measures submitted by Pennsylvania have satisfied the requirements for contingency purposes.

EPA's General Preamble interprets the control measure requirements of sections 172(c)(9) and 182(c)(9) to allow states to implement measures before they are triggered (57 FR 13498, 13511). EPA has previously approved a number of SIPs under this interpretation (66 FR 15844, April 3, 1997; 62 FR 66279, December 18, 1997; 66 FR 30811, June 8, 2001; and 66 FR 586, and 66 FR 634, January 3, 2001) and the Fifth Circuit has upheld EPA's interpretation. *Louisiana Environmental Action Network* v. *EPA*, 382 F.3d 575 (Fifth Cir. 2004). It does not matter whether or not a specific contingency measure is already required by law, as long as the emissions reductions that will result from the contingency measure have not been relied upon in the attainment demonstration.

The contingency measures in Pennsylvania's attainment demonstration (described above) that are already implemented and provide reductions in excess of those required by the attainment

demonstration to attain the standards. The level of reductions provided is equal to at least one year's worth of reductions needed for attainment in the Pennsylvania portion of the Philadelphia area. Contingency measures are implemented in the event that the Philadelphia area fails to attain the standards by its attainment date. Although the Philadelphia area, as indicated above, met their attainment date of April 5, 2010, and thus is not required to implement contingency measures, by relying on those measures that were already in place, Pennsylvania effectively implemented their control measures in advance.

7. Attainment Date

Pennsylvania provided a demonstration of attainment of the 1997 $PM_{2.5}$ NAAQS in the Pennsylvania portion of the Philadelphia area by 2010. Areas, such as this, that demonstrate attainment of the standard by 2010 are considered to have satisfied the requirement to show RFP toward attainment and need not submit a separate RFP plan. For similar reasons, such areas are not subject to a requirement for a mid-course review.

B. Motor Vehicle Emissions Budgets

Section 176(c) of the CAA requires Federal actions in nonattainment and maintenance areas to "conform to" the goals of SIPs. 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. 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, and the FHWA and FTA to demonstrate that their long range transportation plans and transportation improvement programs (TIP) conform to applicable SIPs. This is typically determined by showing that estimated emissions from existing and planned highway and transit projects are less than or equal to the MVEBs contained in the SIP.

The MVEBs for the 2009 attainment year are based on the projected 2009 on-road motor vehicle source emissions, accounting for the emission reductions from on-road vehicle source control measures, including transportation control measures and vehicle technology, fuel or maintenance-based measures. MVEBs for 2009 attainment year for the Pennsylvania portion of the Philadelphia area are 699 tons per year for $PM_{2.5}$ direct and 36,318 tons per year for NOx. More detailed information can be found in the TSD entitled, "Adequacy Findings for Motor Vehicle Emissions Budgets in the Attainment Demonstration for the Pennsylvania Portion of the Philadelphia-Wilmington-New Jersey City 1997 $PM_{2.5}$ NAAQS Nonattainment Area, dated October 6, 2011, available on line at www.regulations.gov, Docket number **EPA-R03-OAR-2011-0391**.

For MVEBs to be approvable, they must meet, at a minimum, EPA's adequacy criteria (40 CFR 93.118(e)(4)). The MVEBs for the Pennsylvania portion of the Philadelphia area $PM_{2.5}$ attainment plan are being posted to EPA's conformity website concurrently with this proposed action. The public comment period will end at the same time as the public comment period for this proposed action. In this case, EPA is concurrently processing the action on the attainment

plan and the adequacy process for the MVEBs contained therein. In this action, EPA is proposing to find the MVEBs adequate, and also proposing to approve the MVEBs as part of the attainment plan. The MVEBs cannot be used for transportation conformity until the attainment plan and associated MVEBs are approved in a final Federal Register notice, or EPA otherwise finds the budgets adequate in a separate action following the comment period. Our action on the Pennsylvania portion of the Philadelphia area MVEBs will also be announced on EPA's conformity website: http://www.epa.gov/otaq/stateresources/transconf/index.htm, (once there, click on "Adequacy Review of SIP Submissions).

The budgets that Pennsylvania submitted were calculated using the MOBILE6.2 motor vehicle emissions model. EPA is proposing to approve the inventory and the conformity budgets calculated using this model because this model was the most current model available at the time Pennsylvania was performing its analysis. Separate from today's proposal, EPA has issued an updated motor vehicle emissions model known as the Motor Vehicle Emission Simulator or MOVES. In its announcement of this model, EPA established a grace period for continued use of MOBILE6.2 in transportation conformity determinations for transportation plans and TIPs, after which states and MPOs (other than California) must use MOVES for transportation plan and TIP conformity determinations. This grace period will expire in March 2012 (or March 2013 once the extension becomes official).

Additional information on the use of MOVES in SIPs and conformity determinations can be found in the December 2009, "Policy Guidance on the Use of MOVES2010 for State

Implementation Plan Development, Transportation Conformity, and Other Purposes." This guidance document is available at: http://www.epa.gov/otaq/models/moves/420b09046.pdf. During the conformity grace period, the state and MPO(s) should use the interagency consultation process to examine how MOVES2010a will impact their future transportation plan and TIP conformity determinations, including regional emissions analyses. For example, an increase in emission estimates due to the use of MOVES2010a may affect an area's ability to demonstrate conformity for its transportation plan and/or TIP. Therefore, state and local planners should carefully consider whether the SIP and motor vehicle emissions budget(s) should be revised with MOVES2010a or if transportation plans and TIPs should be revised before the end of the conformity grace period, since doing so may be necessary to ensure conformity determinations in the future.

We would expect that states and MPOs would work closely with EPA and the local FHWA and FTA offices to determine an appropriate course of action to address this type of situation if it is expected to occur. If Pennsylvania chooses to revise its $PM_{2.5}$ attainment plan, it should consult Question 7 of the December 2009, "Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes," for information on requirements related to such revisions.

V. Proposed Action

EPA is proposing to approve the 1997 annual $PM_{2.5}$ NAAQS attainment plan for the Pennsylvania portion of the Philadelphia area that was submitted on April 12, 2010. The

attainment plan includes Pennsylvania's attainment demonstration, the MVEBs used for transportation conformity purposes, an analysis of RACM/RACT, a base year emissions inventory, and contingency measures. EPA has determined that the SIP revision meets the applicable requirements of the CAA, as described in the $PM_{2.5}$ Implementation Rule. Specifically, EPA has determined that the Pennsylvania SIP revision includes an attainment demonstration and adopted state regulations and programs needed to support a determination that the Pennsylvania portion of the Philadelphia area would have attain the 1997 annual $PM_{2.5}$ NAAQS by the April 2010 deadline. EPA is soliciting public comments on the issues discussed in this document. These comments will be considered before taking final action.

VI. Statutory and Executive Order Reviews

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 proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- 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 proposed rule, pertaining to the 1997 $PM_{2.5}$ attainment plan for the Pennsylvania portion of the Philadelphia area, 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.

List of Subjects in 40 CFR Part 52

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

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

October 26, 2011
Dated:

W. C. Early, Acting
Regional Administrator,
Region III.

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