



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R03-OAR-2008-0929; FRL- 9718-7]

Approval and Promulgation of Air Quality Implementation Plans; Maryland; Attainment Demonstration for the 1997 8-Hour Ozone National Ambient Air Quality Standard for the Philadelphia-Wilmington-Atlantic City Moderate Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to approve the attainment demonstration portion of the attainment plan submitted by the State of Maryland through the Maryland Department of the Environment (MDE) as a State Implementation Plan (SIP) revision that demonstrates attainment of the 1997 8-hour ozone national ambient air quality standard (NAAQS) for the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE, moderate nonattainment area (Philadelphia Area) by the applicable attainment date of June 2011. EPA has determined that Maryland's SIP revision meets the applicable requirements of the Clean Air Act (CAA). This action is being taken in accordance with the CAA.

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-2008-0929** by one of the following methods:

- A. www.regulations.gov. Follow the on-line instructions for submitting comments.
- B. E-mail: mastro.donna@epa.gov.

C. Mail: **EPA-R03-OAR-2008-0929**, Donna Mastro, Acting 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-2008-0929**. 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 Maryland Department of the Environment, 1800 Washington Boulevard, Suite 705, Baltimore, Maryland 21230.

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.

The following is provided to aid in locating information in this preamble.

- I. What Action is EPA Proposing to Take?
- II. What is the Background for EPA’s Proposed Action?
- III. What are the CAA Requirements for a Moderate 8-Hour Ozone Nonattainment Area?
- IV. What is Included in Maryland’s SIP Submittal?

V. What is EPA's Review of Maryland's Modeled Attainment Demonstration and Weight of Evidence Analysis for the Philadelphia Area?

VI. Proposed Action

VII. Statutory and Executive Order Reviews

I. What Action is EPA Proposing to Take?

EPA is proposing to approve the attainment demonstration element of a SIP revision submitted by MDE to EPA on June 4, 2007. The June 4, 2007 SIP revision consisted of Maryland's attainment plan for the 1997 8-hour ozone NAAQS for the Philadelphia Area. The ozone attainment plan submitted on June 4, 2007 included the attainment demonstration for the Philadelphia Area and its associated motor vehicle emission budgets (MVEBs) used for transportation conformity purposes in Cecil County, Maryland. The Maryland attainment plan also included a 2002 base year emissions inventory, an analysis of the reasonably available control measures/reasonably available control technology (RACM/RACT), the 2008 rate of progress (ROP) plan and its associated MVEBs, and contingency measures. The ROP plan and its MVEBs, 2002 base year emissions inventory, RACM/RACT analysis, and contingency measures (elements of the June 4, 2007 attainment plan) were approved on June 11, 2010 (75 FR 33172). Therefore, in this action, EPA is only proposing to approve Maryland's attainment demonstration for the 1997 8-hour ozone NAAQS for the Philadelphia Area.

In a separate and concurrent process, EPA is conducting a process to find the MVEBs for Cecil County associated with the Maryland attainment demonstration for the Philadelphia Area

adequate. Concurrently with EPA's proposal to approve the SIP, a notice will be posted on EPA's website at <http://www.epa.gov/otaq/stateresources/transconf/currships.htm> for the purpose of opening a 30-day public comment period on the adequacy of the MVEBs for Cecil County in the June 4, 2007 SIP revision's attainment demonstration for the Philadelphia Area. That notice will inform the public of the availability of the Maryland SIP revision on MDE's website. Interested members of the public could access Maryland's June 4, 2007 SIP revision on line at www.regulations.gov, Docket No. **EPA-R03-OAR-2008-0929**. Following EPA's public comment period, responses to any comments received will be addressed.

EPA has determined that Maryland's attainment demonstration meets the applicable requirements of the CAA because it demonstrates attainment by the applicable date of June 15, 2011.¹ EPA's analysis and findings are discussed in this proposed rulemaking. In addition, a technical support document (TSD) for this proposal entitled "Technical Support Document for the Modeling and Weight of Evidence Portions of the Cecil County, Maryland 8-Hour Ozone State Implementation Plan," dated June 22, 2012 (referred to herein as the Attainment TSD) is available on line at www.regulations.gov, Docket No. **EPA-R03-OAR-2008-0929**. The Attainment TSD provides additional explanation on EPA's analysis supporting this proposed approval of the attainment demonstration.

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

On June 4, 2007, MDE submitted a comprehensive SIP revision to meet the requirements for an

¹ As explained in detail in Section II, EPA approved on January 21, 2011 a one-year extension of the Philadelphia Area's attainment date from June 2010 to June 2011. 76 FR 3840.

attainment plan for the 1997 8-hour ozone NAAQS for the Philadelphia Area. On May 8, 2009 (74 FR 21599), EPA proposed to disapprove the ozone attainment demonstration element of the June 4, 2007 attainment plan of the comprehensive SIP revision. EPA proposed to disapprove the attainment demonstration of the 1997 8-hour NAAQS for the Philadelphia Area because EPA determined that the photochemical modeling did not demonstrate attainment, and the weight of evidence analysis used to support the attainment demonstration did not provide sufficient evidence that the Philadelphia Area would attain the 1997 8-hour ozone NAAQS by the June 2010 deadline for the ozone nonattainment areas classified as moderate. On December 9, 2011 (76 FR 76929), EPA withdrew the May 8, 2009 proposed disapproval of the attainment demonstration for the Philadelphia Area based on ambient air quality monitoring data demonstrating attainment.

Moderate areas are required to attain the 1997 8-hour ozone NAAQS by no later than six years after designation. Therefore, the Philadelphia Area was to attain by June 15, 2010. *See* 40 CFR 51.903 and 69 FR 23951 (April 30, 2004). However, the Philadelphia Area qualified for a one year extension of its attainment date, based on the complete, certified ambient air quality data for the 2009 ozone season. *See* 40 CFR 51.907. On January 21, 2011 (76 FR 3840), EPA approved a one year extension of the Philadelphia Area's attainment date from June 15, 2010 to June 15, 2011, based in part on air quality data recorded during the 2009 ozone season.

On March 26, 2012 (77 FR 17341), EPA published two determinations regarding the 1997 8-hour ozone NAAQS for the Philadelphia Area. First, EPA made a clean data determination

that the Philadelphia Area had attained the 1997 8-hour ozone NAAQS. This determination was based upon complete, quality assured, and certified ambient air monitoring data that showed the Philadelphia Area had monitored attainment of the 1997 8-hour ozone NAAQS for the 2008 – 2010 monitoring period. Ambient air monitoring data for the 2009 – 2011 monitoring period is consistent with continued attainment. Second, pursuant to section 181(b)(2)(A) of the CAA, EPA made a determination of attainment that the Philadelphia Area had attained the 1997 8-hour ozone NAAQS by its attainment date of June 15, 2011.

III. What are the CAA Requirements for a Moderate 8-Hour Ozone Nonattainment Area?

In 1997, EPA revised the health-based NAAQS for ozone, setting it at 0.08 parts per million (ppm) averaged over an 8-hour time frame. EPA set the 1997 8-hour ozone standard based on scientific evidence demonstrating that ozone causes adverse health effects at lower ozone concentrations and over longer periods of time than was understood when the pre-existing 1-hour ozone standard was set. EPA determined that the 1997 8-hour standard would be more protective of human health, especially for children and adults who are active outdoors, and individuals with a pre-existing respiratory disease, such as asthma.

On April 30, 2004 (69 FR 23951), EPA finalized its attainment/nonattainment designations for areas across the country with respect to the 1997 8-hour ozone standard. These actions became effective on June 15, 2004. In addition, on April 30, 2004 (69 FR 23951), EPA promulgated its Phase 1 Implementation Rule which provided how areas designated nonattainment for the 1997 8-hour ozone standard would be classified. Among those nonattainment areas is the Philadelphia

Area. The Philadelphia Area includes all three counties in Delaware, five counties in eastern Pennsylvania, one county in Maryland, and eight counties in southern New Jersey. Therefore, the Philadelphia Area includes Cecil County in Maryland. EPA's Phase 2 Implementation Rule published on November 29, 2005 (70 FR 71612) specifies that states must submit attainment demonstrations for their nonattainment areas to EPA by no later than three years from the effective date of designation, that is, by June 15, 2007. *See* 40 CFR 51.908(a).

Pursuant to the Phase 1 Implementation Rule, an area was classified under subpart 2 of Title I of the CAA based on its 8-hour design value if it had a 1-hour design value at or above 0.12 ppm. Based on this criterion, the Philadelphia Area was classified under subpart 2 as a moderate nonattainment area. The Phase 2 Implementation Rule addressed the control obligations that apply to areas classified under subpart 2. Among other things, the Phase 1 and 2 Implementation Rules outline the required SIP elements and deadlines for those various requirements in areas designated as moderate nonattainment.

IV. What is Included in Maryland's SIP Submittal?

On June 4, 2007, Maryland submitted a comprehensive attainment plan as a SIP revision for the 1997 8-hour ozone NAAQS. The SIP revision included an attainment demonstration with MVEBs, the ROP plan with MVEBs, a RACM/RACT analysis, the 2002 base year emissions inventory, and contingency measures. The attainment demonstration of the June 4, 2007 SIP submittal is the only subject of this proposed rulemaking. In a separate and concurrent process, EPA is proposing an adequacy determination for the 2009 MVEBs associated with the ozone

attainment demonstration for Cecil County in Maryland. The other elements of the June 4, 2007 SIP submittal were approved by EPA on June 11, 2010 (75 FR 33172).

V. What is EPA's Review of Maryland's Modeled Attainment Demonstration and Weight of Evidence Analysis for the Philadelphia Area?

Section 110(a)(2)(K) of the CAA requires states to prepare air quality modeling to show how they will meet ambient air quality standards. EPA determined that areas classified as moderate or above must use photochemical grid modeling or any other analytical method determined by the Administrator to be at least as effective to demonstrate attainment of the ozone health-based standard by the required attainment date (November 29, 2005, 70 FR 71612, and 40 CFR 51.908). On April 30, 2004 (69 FR 23951 and 40 CFR 51.903), EPA specified how areas would be classified with regard to the 8-hour ozone standard set by EPA in 1997. On April 30, 2004 (69 FR 23858), EPA followed these procedures and classified the Philadelphia Area as moderate, and the nonattainment area was required to attain the 1997 8-hour ozone standard by June 2010. Because the attainment date was June 2010 for moderate areas, states had to achieve emission reductions by the ozone season of 2009 in order for ozone concentrations to be reduced and show attainment during the last complete ozone season before the 2010 deadline.

A. EPA Guidance for Using Models to Determine Attainment

EPA's photochemical modeling guidance is found at *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. The photochemical modeling guidance is divided into

two parts. One part describes how to use a photochemical grid model for ozone to assess whether an area will come into attainment of the air quality standard. A second part describes how the user should perform supplemental analyses, using various analytical methods, to determine if the model over predicts, under predicts, or accurately predicts the air quality improvement projected to occur by the attainment date. The guidance indicates that states should review these supplemental analyses, in combination with the modeling analysis, in a “weight of evidence” assessment to determine whether each area is likely to achieve timely attainment.

A description of how the attainment demonstration from the June 4, 2007 SIP revision addresses this EPA modeling guidance for a modeled attainment demonstration can be found in the Attainment TSD, available on line at www.regulations.gov, Docket number **EPA-R03-OAR-2008-0929**.

In the June 4, 2007 SIP revision, the photochemical grid model used projected emissions for 2009, including emission changes due to regulations Maryland and its neighboring states were planning to implement and expected growth by the 2009 ozone season. Meteorological conditions from 2002, the same as the base year modeling, were used in the projection modeling for 2009. Using the base case meteorology allows the effect of changes in states’ emissions to be determined without being influenced by yearly fluctuations in meteorology and is consistent with EPA guidance.

The attainment test used in the Philadelphia Area modeling demonstration involved the application of model-based relative response factors (RRFs) to base year design values at each monitor to produce projected future year design values (2009). The projected 2009 design values represent design values that should result from emission controls Maryland and other states planned to have in place in 2009. As discussed in the Attainment TSD, the 2009 design values should be less than or equal to 84 parts per billion (ppb) at all monitoring stations to meet the attainment test. The SIP modeling predicts that in 2009, the Philadelphia Area will not pass the attainment test since design values are projected to be over the 84 ppb standard.

In summary, the basic photochemical grid modeling presented in the Maryland SIP revision meets EPA's guidelines and when used with the methods recommended in EPA's modeling guidance, is acceptable to EPA. However, when EPA's attainment test is applied to the modeling results, the 2009 ozone design value is predicted to be 91 ppb in the Philadelphia Area. Thus, based on EPA's modeled attainment test, the Philadelphia Area has not demonstrated that it will reach attainment of the 1997 8-hour ozone standard in the attainment year with the modeled emission reduction strategies committed to by Maryland and the neighboring states in the Ozone Transport Region (OTR). Therefore, a weight of evidence (WOE) analysis was used by Maryland and reviewed by EPA to demonstrate attainment of the 1997 8-hour ozone standard in the Philadelphia Area.

B. Weight of Evidence Demonstration

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 of the 1997 8-hour ozone NAAQS. 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.

The WOE analysis presented in the Maryland SIP revision describes the analyses performed, databases used, key assumptions and outcomes of each analysis, and why the evidence, viewed as a whole, supports a conclusion that the Philadelphia Area will attain the NAAQS despite the model prediction that some monitors' future design values exceed the 1997 8-hour ozone NAAQS.

EPA's review of the WOE analysis in the Attainment TSD included the following: 1) a comparison of model-predicted 2009 ozone design values to monitored design values for 2006 - 2011; 2) an analysis of recent ozone trends in the Philadelphia Area; and 3) alternative methods for calculating the 2009 ozone design value. As discussed in detail in the Attainment TSD, the 2009 model over predicted ozone design values for 2006 – 2011 for most cases. Further, in the Attainment TSD, EPA's analysis concurs with Maryland's analysis of significant declining trends in the Philadelphia Area ozone design values. The Attainment TSD concluded that additional emissions reductions have continued to occur due mostly to local controls in each nonattainment area and to a few reductions in major sources due to initiatives in the OTR. The Attainment TSD noted that monitored ozone design values for each of the Philadelphia Area monitors continued to decline and to show attainment in 2010 and 2011.

As discussed in detail in the Attainment TSD, Maryland's attainment demonstration also asserted an alternative baseline concentration could be used to demonstrate attainment. However, EPA determined in the Attainment TSD that the modeling would still show nonattainment even with this alternative baseline value. Likewise, EPA determined in the Attainment TSD that Maryland's recalculation of 2009 modeled ozone design values with a relative response factor in Maryland's June 4, 2007 SIP revision reduced the modeled 2009 ozone design values slightly but the model still over predicts the actual monitored 2009 design values. In conclusion, in the Attainment TSD, EPA determined with the benefit of 2009 monitored design values that the model in Maryland's June 4, 2007 SIP revision overpredicts actual concentrations even when model adjustments are made as discussed herein to attempt to account for model over prediction.

EPA has determined that the Maryland photochemical grid modeling results predict a 2009 projected design value well above the 1997 8-hour ozone NAAQS for the Philadelphia Area. However, after taking into account WOE arguments regarding model over prediction of the 2009 monitored design values and recent ozone design value trends, which show attainment of the standard by 2010, EPA determined that the Maryland SIP has demonstrated attainment of the ozone standard by the extended attainment date of June 2011 as discussed in detail in the Attainment TSD.

V. Proposed Action

EPA is proposing to approve the 1997 8-hour ozone NAAQS attainment demonstration, included in Maryland's June 4, 2007 attainment plan SIP revision, as demonstrating attainment for the

Philadelphia Area by the applicable attainment date of June 15, 2011. 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 8-hour ozone attainment demonstration for the Philadelphia Area submitted by Maryland on June 4, 2007, 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, Reporting and recordkeeping requirements, Volatile organic compounds.

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

Dated: August 08, 2012.

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

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