

**Commonwealth of Pennsylvania  
Department of Environmental Protection**



**State Implementation Plan Revision:  
Section 110(a)(2)(K) for Fine Particulates**

**April 2008**

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**State Implementation Plan Revision**  
**Section 110(a)(2)(K) Requirements for Ozone and Fine Particulates**

A State Implementation Plan (SIP) is a plan for each state that identifies how that state will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS). The SIP is a complex, fluid document containing regulations, source-specific requirements, non-regulatory items such as plans and inventories, and in some cases additional requirements promulgated by the U.S. Environmental Protection Agency (EPA). The initial SIPs for states were approved by EPA on May 31, 1972. SIPs can be revised by the state with EPA approval as necessary. The federally enforceable SIP for Pennsylvania is compiled in 40 CFR Part 52, Subpart NN.

On December 7, 2007, the Commonwealth of Pennsylvania submitted a SIP revision to EPA which addressed those requirements of Section 110(a)(2)(A)-(M) of the Clean Air Act (CAA) that have not been addressed in other SIP revisions, describing how the Commonwealth of Pennsylvania will demonstrate how the eight-hour ozone and fine particulate (PM<sub>2.5</sub>) NAAQS are being implemented, maintained and enforced. A public comment period was held on the December 7, 2007 SIP submittal from September 15, 2007 through September 16, 2007.

This SIP revision is a supplement to the December 7, 2007 submittal and describes how the Commonwealth will fulfill the following requirements under the Clean Air Act (CAA) set forth below for the fine particulate (PM<sub>2.5</sub>) NAAQS:

Section 110(a)(2). *Each implementation plan submitted by a State under this chapter [CAA] shall be adopted by the State after reasonable notice and public hearing. Each such plan shall ...*

\* \* \* \* \*

*(K) provide for--*

*(i) the performance of such air quality modeling as the Administrator [of EPA] may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and*

*(ii) the submission, upon request, of data related to such air quality modeling to the Administrator; ....*

On December 17, 2004, EPA published its air quality designations and classifications for the PM<sub>2.5</sub> NAAQS. These designations became effective on April 5, 2005. Areas designated as nonattainment in Pennsylvania for PM<sub>2.5</sub> are: Harrisburg-Lebanon-Carlisle; Johnstown; Lancaster; York; Reading; and the five counties of the Philadelphia-Wilmington PA-NJ-DE area.

Section 4(1) of the Pennsylvania Air Pollution Control Act (APCA) provides that it is the power and duty of the Department to implement the provisions of the CAA in this Commonwealth. 35 P.S. § 4004 (1). Inherent in this grant of power and duty is the obligation to meet the NAAQS established by Section 107 of the CAA.

Section 4(15) of the APCA provides that it is the power and duty of the Department of Environmental Protection (Department) to conduct or cause to be conducted studies and research with respect to air contaminants, their nature, causes and effects, and with respect to the control, prevention, abatement and reduction of air pollution and air contamination. 35 P.S. § 4004 (15). This power and duty include the power and duty to perform air quality modeling and data submissions prescribed by the Administrator of EPA under Section 110(a)(2)(K) of the CAA.

Inherent in Pennsylvania's obligation to meet the NAAQS and to conduct or cause to be conducted studies and research is the authority and obligation for the Department to perform modeling as required under the CAA to demonstrate attainment of the NAAQS. Pennsylvania will continue to perform modeling as required under the CAA to demonstrate attainment. Pennsylvania will continue to submit the air quality modeling data as part of its relevant SIP submissions and through federal grant commitments or in other ways that EPA may request.

Pennsylvania, as a member of the Mid-Atlantic Regional Air Management Association (MARAMA), conducts multi-pollutant regional modeling through the efforts of a cooperative regional consortium. This consortium most recently performed regional modeling utilizing the resources and expertise of MARAMA, the Northeast States for Coordinated Air Use Management (NESCAUM), and the states of New York, Virginia, New Jersey and Maryland to conduct regional air quality simulations for calendar years 2002, 2009 and 2018 for ozone, fine particles and regional haze. This work was undertaken via a multi-pollutant regional modeling platform in order to meet requirements for ozone, particulate matter and regional haze modeling. The regional modeling platform utilized meteorological fields developed by the University of Maryland, emissions information developed by MARAMA, emissions modeling performed by New York and NESCAUM, and chemical transport modeling performed by modeling centers in New York, NESCAUM, New Jersey, Maryland, and Virginia. Pennsylvania and other participating states provided emissions inventory information to MARAMA and provided technical and policy oversight and direction for the modeling centers through the Ozone Transport Commission Modeling Committee and the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Technical Support Committee.

The procedures followed in the modeling analysis for the 1997 PM<sub>2.5</sub> attainment demonstrations will be in accordance with EPA's *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze* (EPA-454/B-07-002, April 2007). The Department submitted a modeling protocol for these nonattainment areas in October 2007.

**Public Comment.** The Department accepted public comment on this proposed SIP revision from March 8 through April 10, 2008. A public hearing on this proposed SIP revision was held on April 10, 2008 and no comment was received.