

**FOR FURTHER INFORMATION CONTACT:**

Brian Rehn, Air Quality Planning Branch, U.S. EPA, 1650 Arch Street, Mail Code 3AP21, Philadelphia, Pennsylvania 19103-2029, by telephone at (215) 814-2176, or by e-mail at [rehn.brian@epa.gov](mailto:rehn.brian@epa.gov).

**SUPPLEMENTARY INFORMATION:****I. Background***A. Pennsylvania's SIP-Approved Attainment Demonstration and Mobile Budget*

On October 21, 2001, EPA approved Pennsylvania's 1-hour ozone attainment demonstration SIP for the Philadelphia area (66 FR 54143). As part of that approval action, EPA required the Commonwealth to revise the SIP to include a recalculated 2005 attainment year motor vehicle transportation conformity emission budget. This 2005 highway mobile budget was to be updated using the latest version EPA's newest emission factor model (MOBILE6) within one year of the availability of that new version of the model. EPA released the MOBILE6 model on January 29, 2002, and therefore Pennsylvania was required to submit its revised mobile budget SIP for the Philadelphia area by January 29, 2003.

On January 17, 2003, Pennsylvania formally submitted a revision to its SIP containing the updated mobile budget, revising using MOBILE6, for the Philadelphia ozone nonattainment area. On May 28, 2003, EPA published a notice in the **Federal Register** (68 FR 31700) declaring this revised Philadelphia mobile budget adequate for transportation conformity purposes.

*B. Background on the MOBILE Emission Factor Model and Related EPA Policy*

MOBILE is an EPA emissions factor model for estimating pollution from on-road motor vehicles in states (with the exception of California, which has developed its own model). The MOBILE model calculates emissions of volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) from passenger cars, motorcycles, buses, and light-duty and heavy-duty trucks. The model accounts for the emission impacts of factors such as changes in vehicle emission standards, changes in vehicle populations and activity, and variation in local conditions such as temperature,

humidity, fuel quality, and air quality programs. Among other uses, the MOBILE model helps to calculate current and future inventories of motor vehicle emissions at the national and local level. These inventories are used to make decisions about air pollution policy and programs at the local, state and national level. Inventories based on MOBILE are also used to meet the federal Clean Air Act's SIP and transportation conformity requirements.

The MOBILE model, first developed in 1978, has been updated many times to reflect changes to motor vehicles and fuel composition, to incorporate better understanding of vehicle emissions, and to reflect new emissions programs. EPA announced the release of the MOBILE6 version of the MOBILE model in the January 29, 2002 edition of the **Federal Register** (67 FR 4254), as a replacement for a MOBILE5 version of the model.

In November of 1999, EPA issued two memoranda<sup>1</sup> to articulate its policy regarding states that incorporated MOBILE5-based interim Tier 2 standard<sup>2</sup> benefits into their attainment demonstration plans and those plans' associated motor vehicle emissions budgets (or budgets).

EPA has implemented this policy in all ozone nonattainment areas where a state assumed federal Tier 2 benefits in its attainment demonstration plans according to EPA's April 2000 MOBILE5 guidance, "MOBILE5 Information Sheet #8: Tier 2 Benefits Using MOBILE5." States whose attainment demonstrations or maintenance plans include interim MOBILE5-based estimates of the Tier 2 standards were required to revise and resubmit their budgets within either one or two years of the final release of MOBILE6.

EPA's October 21, 2001 (66 FR 54143) approval of Pennsylvania's 1-hour ozone attainment demonstration plan for the Philadelphia area was based upon an interim mobile budget, with projected reductions from Tier 2 motor

vehicle standards estimated using the MOBILE5 model. EPA's October 2001 approval of Pennsylvania's 1-hour ozone attainment demonstration for the Philadelphia area required a MOBILE6-based motor vehicle emissions budget SIP revision within one year after EPA released the MOBILE6 model. EPA released the MOBILE6 model on January 29, 2002, therefore Pennsylvania's MOBILE6 mobile budget SIP was due January 29, 2003.

**II. Summary of SIP Revision and EPA's Review**

On January 17, 2003, the Commonwealth of Pennsylvania submitted a SIP revision containing updated inventories of emissions of the ozone precursors VOC and NO<sub>x</sub> from highway mobile sources operating in the Philadelphia ozone attainment area. These summertime inventories were generated for summertime periods in 1990 and for 2005, the year Philadelphia is to attain the 1-hour ozone standard. This updated motor vehicle emissions modeling was generated through use of the newly released MOBILE6 model. The 2005 motor vehicle emissions inventory projection also serves as the motor vehicle emissions budget, or mobile budget, for transportation conformity planning. The Commonwealth's January 2003 SIP revision is intended to demonstrate that the updated projections of motor vehicle emissions (calculated using the MOBILE6 emissions factor model) continue to support the demonstrations of attainment of the 1-hour ozone NAAQS for the Philadelphia area by 2005.

Table 1 below contrasts Pennsylvania's revised MOBILE6-based motor vehicle emissions inventories with the previously approved MOBILE5-based inventories for the Philadelphia area, by pollutant, expressed in units of tons per summer day (tpd). These revised inventories were developed using the latest available planning assumptions, including 1999 Pennsylvania Department of Transportation vehicle registration data and 1999 traffic data and information vehicle miles traveled (VMT). Updated information was used for atmospheric model input (*i.e.*, temperature and humidity conditions). Rates of growth for highway mobile sources have also been updated.

<sup>1</sup> Memoranda, "Guidance on Motor Vehicle Emissions Budgets in 1-Hour Ozone Attainment Demonstrations," issued November 3, 1999, and "1-Hour Ozone Attainment Demonstrations and Tier 2/ Sulfur Rulemaking," issued November 8, 1999. Copies of these memoranda can be found on EPA's Web site at <http://www.epa.gov/otaq/transp/traqconf.htm>.

<sup>2</sup> The final rule on Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements ("Tier 2 standards") for passenger cars, light trucks, and larger passenger vehicles was published on February 10, 2000 (65 FR 6698).