Planning for MOBILE7

Review of the Mobile Source Emissions Factor Model by the National Academy of Sciences

In the fiscal year 1997 appropriations bill for EPA, Congress provided $250,000 "for a study of EPA's Mobile Source Emissions Factor Model to be conducted by the National Academy of Sciences."

A grant to the National Research Council (NRC) of the NAS was awarded on September 30, 1997 with a project period of one year. The work to be performed will consider the adequacy of the model's input data, assumptions, structure, and results used to characterize mobile source emissions. To the extent practicable, the study will consider ways to improve the reliability of the MOBILE model as a tool for assisting in the development of emission control strategies to meet air quality goals. The project will include one or more open sessions during which outside experts will be asked to provided technical and policy background information. Recruitment of these experts is now under way.

The Statement of Work is below. If you have any comments, suggestions or concerns, please contact John T. White, the EPA Project Officer, at (734) 214-4353. His email address is white.johnt@epa.gov and his fax number is (734) 214-4821.

STATEMENT OF WORK

As a part of its work in the calculations and projections of air quality, EPA's Office of Mobile Sources has developed a computerized tool known as the MOBILE model. This computer application has evolved over many years and is now widely used by state, regional and local air quality planners, consultants, academia and independent researchers. With each periodic update, there have been expansions in the depth and breadth of the underlying data, greater sophistication in the processing algorithms, improvements in the ease of use and additions to the types of outputs. The version currently in use is known as MOBILE5. Work on its successor, MOBILE6, is in progress and it is expected to be released in mid-1998. MOBILE7 will soon enter the planning stages with an expected implementation date of 2000 or later. [9/98 Update: the release of MOBILE6 has been extended to December, 1999. That change will surely affect the implementation date of MOBILE7]

The purpose of this study is to review the MOBILE model and, within the constraints of available information and project resources, inform public debate on recommended improvements for incorporation in the development, deployment, and use of MOBILE7.

This project will evaluate the current and imminent versions of the MOBILE model with respect to the following aspects:

1. The types of mobile sources addressed, particularly the amount and quality of data from under-represented and unrepresented categories of sources, e.g., heavy-duty vehicles, and emissions of increasing interest, e.g., particulates no larger than 2.5 microns;

2. The strategies and methods for future data gathering in partnerships with other researchers, such as state agencies, industry associations or others with relevant data, in order to increase the amount and range of data in the most cost-effective manner;

3. Alternative data sources and analytical techniques currently used by others for similar purposes, e.g., the California Air Resources Board (in their EMFAC and related models) or the German government;

4. The latest developments in related areas of modeling and how such advances might be incorporated in a new edition of the model;

5. The feasibility and requirements for the incorporation of modal modeling in MOBILE7 to reflect the effect on emissions of a variety of driving conditions and vehicle technologies;

6. To the extent practical, the overall accuracy of the current models in predicting emissions to the atmosphere.

The results of this effort will add to the volume of information on the model and enhance the general public knowledge of the input parameters and processing algorithms. Ultimately, the study will facilitate meaningful technical changes to ensure that MOBILE7 is as accurate, reliable, comprehensive, efficient and easy to use as possible. An improved MOBILE model will benefit various efforts by air quality planners throughout the nation to improve air quality.

Successful completion of this study will require expertise in the characterization of mobile source emissions; development, use and evaluation of air quality models; atmospheric chemistry; mobile source emission control strategies; exposure assessment; automotive engineering; traffic patterns and control; statistics; and uncertainty analysis.

Update for the MSTRS meeting of 10/14/98

The roster for the committee is almost finalized and will be released shortly. Information about the project will eventually appear on the NAS web site at:
http://www4.nas.edu/cp.nsf/57b01c7b1b6493c485256555005853cf?OpenView&Start=10.32
John Holmes has joined NAS and will oversee this process. His phone number is (202) 334-2045
His email address is: jholmes@nas.edu. EPA and NAS are now arranging for an extension to the grant.