

**May 2, 2001**

**To:** FACA Modeling Workgroup  
**From:** John Koupal  
**Re:** Summary of 4/23 Conference Call

A conference call of the FACA Modeling Workgroup was held on April 23, 2001. The purpose of this meeting was for workgroup member to provide EPA with question and comments on the content of the draft report "EPA's New Generation Mobile Source Emissions Model - Initial Proposal and Issues", presented to the workgroup on April 10<sup>th</sup>.

**Attendees:**

Kevin Black, DOT/FHWA  
Bruce Spear, DOT/FHWA  
Mike Savonis, DOT/FHWA  
Cecilia Ho, DOT/FHWA  
Fred Ducca, DOT/FHWA  
Jeremy Heiken, Air Improvement Resource Inc.  
Ed Nam, Ford Motor Company  
Jeanette Klute, Ford Motor Company  
Rebecca King, Ford Motor Company  
Matt Barth, UC Riverside  
Alison Pollack, Environ Corporation  
Rob Ireson, Air Quality Management Consulting  
David Lax, American Petroleum Institute  
Sandeep Kishan, Eastern Research Group  
Larry Caretto, CSU Northridge  
Bob Slott, Consultant  
Mike Keenan, New York State Dept. of Environmental Conservation  
John Cabaniss, AIAM  
Sue Kimbrough, EPA/ORD/NRMRL  
Chuck Mann, EPA/ORD/NRMRL  
Alan Huber, EPA/ORD/NERL  
Bill Johnson, EPA/OAR/OAQPS  
Mitch Cumberworth, EPA/OAR/OTAQ  
Chad Bailey, EPA/OAR/OTAQ  
Megan Beardsley, EPA/OAR/OTAQ  
Harvey Michaels, EPA/OAR/OTAQ  
John Koupal, EPA/OAR/OTAQ

Comments and questions from the workgroup fell into four basic areas: model scope and transition, PEMS data collection and analysis, coordination and review, and other issues.

### **Model Scope and Transition**

Kevin Black asked about plans for MOBILE6.1 and MOBILE6.2, and the implications for transition to the NGM model. John Koupal responded that MOBILE6.1 will incorporate particulate matter, with the current plan for release by the end of September. MOBILE6.2 will incorporate toxics, and will be released by the end of the calendar year. These efforts address a key objective of the New Generation Model, getting all pollutants “under one roof”.

Bruce Spear asked about the viability of the model, what a potential timeframe is, and whether this was a funded effort. John Koupal responded that the New Generation Model is the current direction of the agency (there is no “MOBILE7”), funding is committed but specific amounts are determined year-to-year. It is too early to establish a timeframe since the model contents are uncertain, but this is the goal of the next project deliverable, the comprehensive plan in Fall 2001.

Jeremy Heiken expressed concern that the scope of the project was significantly greater than MOBILE6, and that an important aspect of EPA’s modeling program should be to ensure more timely updates, which a larger scope could inhibit.

John Koupal asked the group for specific comments on the “Reduced Scope Option”, which would not include software development for the mesoscale and microscale levels. He reiterated comments from Rick Barrett of Colorado (not in attendance), who said that Colorado has its own software system for mesoscale modeling, and would like to see EPA focus primarily on developing modal emission rates. Mike Keenan responded that not many users have the same level of sophistication as Colorado, and might benefit from having a software framework.

### **PEMS Data Collection and Analysis**

Sandeep Kishan stated that it would probably take considerable time to develop a dataset using PEMS data, and that it would be a fundamental shift from little data on a large sample to lots of data of smaller sample.

Matt Barth stated that PEMS data would likely need to be supplemented by existing data, and encouraged the development of a data collection plan to lay out how PEMS data would populate the model. John Koupal indicated that the comprehensive plan will include a PEMS data sampling plan.

Bob Slott brought up a potential issue for on-board measurement that fuel properties are not stable, i.e. the composition of fuel in the tank changes as fuel evaporates. This led to a discussion of what data is really important to get. Larry Caretto indicated that data prioritization was key, since you might end up spending a lot of effort to characterize an effect which is

relative minor. Slott referenced some work being performed by the Harvard on the determining the value of information, i.e. what is the impact of reducing data sources? Kishan indicated that it was probably a “chicken or the egg” problem, you won’t know what’s important until you gather the information. Slott said there are analytical methods which could be employed to help determine what the important data elements are.

Mike Keenan said the development of modal emission rates has been an issue for 25 years, it is difficult to determine rates which are statistically significant. He also expressed concern that a modal model will be more difficult to use, since it would entail appropriate activity information to operate. John Koupal responded that one of the macroscale level would be appropriate for users without necessary inputs for modal modeling.

Jeremy Heiken suggested that while the use of emission correction factors are important for determining the specific emissions effect of a specific change. The “comprehensive” emission rate approach might be useful for estimating past or current emissions, but for future years you would need to rely on some sort of correction factor approach.

### **Coordination and Review**

Bruce Spear wondered what stakeholders and/or users would be included in further discussions of the New Generation Model. He suggested that a working group be developed specifically to address issues of emissions modeling requirements, and the feasibility of gathering input data needed to run the models. Kevin Black suggested that such a group should include DOT as well as state and local planning organizations

Bob Slott suggested that coordination and review be conducted on several fronts: model users (e.g. states), stakeholders (e.g. oil and auto industry), and science advisory panel, similar to what was used in the Auto/Oil program. Larry Caretto followed up with another possible breakdown of potential review functions, focusing on users, science/data review, and software development.

Bob Slott suggested that coordination be improved between EPA and ARB, so eliminate unnecessary duplication of effort across the two organizations.

Rob Ireson expressed concern about disconnects between activity information being produced by transportation planners/models, and what emission models were expecting for activity information. He suggested improved coordination with transportation modelers was necessary to mitigate this problem.

### **Other Issues**

Jeremy Heiken expressed support for the approach of using surrogates to predict nonroad equipment activity. He references some work which looked at improving spatial allocation of generators using surrogate information, with positive results.

Bob Slott wondered whether an adjustment would be needed to close the gap between the sample of vehicles monitored by PEMS, and the actual fleet on the road. Sandeep Kishan indicated that work by ARB could be useful for determining the disconnect between recruitment samples and the on-road fleet. John Koupal indicated that one possibility being considered for the New Generation Model would be for local areas to characterize the emission distribution of their own fleet using IM, RSD or other means.

Ed Nam indicated that consistency between the macroscale, mesoscale and microscale levels of analysis would be crucial, since the potential for gaming was large. John Koupal responded that a goal of the NGM effort is to create consistency in emissions rate estimates between the scales, but that the overall emission results would be different depending on what scale was used due to the aggregation of activity. Good guidance and implementation will therefore be crucial.

### **Next Steps**

John Koupal requested that additional comments be sent in writing or by email ([newgen@epa.gov](mailto:newgen@epa.gov)) by July 1<sup>st</sup>. The next workgroup meeting will likely be held in conjunction with the July 18<sup>th</sup> MSTRS meeting in Alexandria, Virginia. Comments received by this date will be compiled for the group prior to this meeting.