

## **Peer Review of the Health Impacts Analysis Of CARB Staff's Draft Goods Movement Emission Reduction Plan**

### **I. Overview**

On December 1, 2005, California Air Resources Board (CARB) staff released a draft Emission Reduction Plan for Ports and International Goods Movement. The plan contains a comprehensive analysis of the public health impacts related to goods movement emissions. CARB staff are seeking scientific peer review of that element of the plan, as part of the overall public review process.

### **II. Peer Review Process**

CARB staff invited 12 individuals to participate in a scientific peer review of the draft health impacts analysis including experts in the fields of toxicology, epidemiology, clinical medicine, emissions, air quality modeling, source apportionment, exposure assessment, risk assessment, and health benefits assessment. To complete this process in a timely and orderly way, staff has requested comments in writing. CARB staff will review and respond to those comments and include them in an appendix to the next draft of the health impacts analysis. This process is similar to reviews conducted for the greenhouse gas regulations for motor vehicles and the more recent report to the Governor on climate change. CARB staff will also respond to public comments in a separate appendix.

The peer reviewers were asked to focus on the following, although comments were encouraged on any aspect of the assessment.

- What is your overall opinion of the assessment?
- Is there sufficient documentation and transparency of the methodology and results?
- Have the caveats, uncertainties, and limitations of the methods and results been fully acknowledged?
- Have any mistakes or misleading statements been made?
- Do you have any suggestions for additional sources, pollutants, databases, methods, calculations, health endpoints, etc. that should be included over the short-term (next 1-2 months)?
- Do you have suggestions for any issues that should be investigated over the long-term (several months to years)?

### **III. Schedule for Peer Review and ARB Revisions to Health Impacts Analysis**

- Receive preliminary peer reviewer comments – January 6, 2006
- Receive final peer reviewer comments – January 31, 2006
- Receive public comments – January 31, 2006
- Revised health impacts analysis – March 1, 2006
- Board consideration of the emission reduction plan – April 20, 2006

#### **IV. List of Peer Reviewers\***

John Balmes, University of California, San Francisco  
James Corbett, University of Delaware  
John Froines, University of California, Los Angeles  
Robert Harley, University of California, Berkeley  
Aaron Hallberg, Abt Associates, Inc.  
Michael Jerrett, University of Southern California  
Melanie Marty, Office of Environmental Health Hazard Assessment  
Bart Ostro, Office of Environmental Health Hazard Assessment  
Jean Ospital, South Coast Air Quality Management District  
Costantinos Sioutas, University of Southern California  
Akula Venkatram, University of California, Riverside

\*Two others have been asked, but have not yet committed.

#### **V. Planned Changes to Draft Assessment**

CARB staff has already identified several areas in which additional information or revisions to the health assessment analysis are needed. These include:

- Bounding estimate of the health impacts of sulfates.
- Revise ozone health impacts assessment to consider ozone background.
- Additional health endpoints, e.g., chronic bronchitis.

#### **VI. Comments Received to Date**

To date the CARB staff has received preliminary comments from three peer reviewers. In general, the reviewers have commented that the assumptions, methodologies, and uncertainties used in the analysis need to be better described and explained. Commentors asked for more discussion of:

- Uncertainties behind the link between emissions and air quality.
- The link between central site and personal exposures.
- Uncertainties due to the influence of indoor exposures.
- Spatial and temporal variation in concentrations of toxic PM components.
- Uncertainties due to demographic change over time, including projection of baseline mortality rates for future years.
- Additional health endpoints, e.g., infant mortality, cardiovascular disease.
- Add bounding estimates of the health impacts of secondary organic compounds.
- Assumptions in the economic impacts estimate.