

Summary Minutes of the  
Clean Air Scientific Advisory Committee  
Particulate Matter Review Panel  
Public Meeting  
Raleigh, North Carolina  
July 26 – 27, 2010

Committee Members: Dr. Jonathan Samet, Chair  
Dr. Lowell Ashbaugh  
Professor Ed Avol  
Dr. Joseph Brain  
Dr. Wayne Cascio  
Dr. Christopher Frey  
Dr. Joseph Helble  
Dr. Rogene Henderson  
Dr. Helen Suh  
Dr. William Malm  
Mr. Tom Moore  
Mr. Richard Poirot  
Dr. Ted Russell  
Dr. Frank Speizer (by phone)  
Dr. Sverre Vedal  
Dr. Kathy Weathers

Unable to Attend: Dr. James Crapo  
Dr. Robert Phalen  
Dr. Donna Kenski  
Dr. David Grantz

Date and Time: July 26, 2010: 9:00 am – 5:00 pm  
July 27, 2010: 8:30 am – 11:30 am

Purpose: The Clean Air Scientific Committee Review Panel (CASAC) reviewed the *Policy Assessment for the Review of the PM NAAQS – First External Review Draft (March 2010)*.

SAB Staff: Dr. Holly Stallworth, Designated Federal Officer

Other EPA Staff: Mary Ross, Zachary Pekar, Marc Pitchford, Karen Martin, Vicki Sandiford, Beth Hassett-Sipple, Lydia Wegman, Pradeep Rajan, Scott Jenkins, Susan Stone, Meredith Lassiter, Beth Palma, Shao-hong Hu, Amy Lamson, Steve McDow, Devin Hartman, Joann Rice, Tim Hanley, Phil Lorang, Lillian Bradley

Public: Deborah Shprentz, American Lung Association  
Ben Brandes, National Mining Association  
Jon S. Jansen, Southern Company  
Jay Turim, Exponent  
Vecky Battye ECR  
Julie Goodman, Gradient  
John Richards, Air Control Techniques  
Kurt Blasé, Coarse PM Coalition  
Greg Schaefer, Arch Coal, Inc.  
Harvey Richmond, Abt Associates  
Kevin Ours, NC DAQ  
Bryan Baldwin, Southern Company  
Phillip Juneau, Air Control Techniques  
Wig Zamore, TSEP, MVTF  
Cindy Langworthy, Hunton & Williams

Attachments: The meeting agenda, charge questions, presentations, public comments, and panelists' pre-meeting written comments may be found posted at the meeting website:

<http://yosemite.epa.gov/sab/sabproduct.nsf/bf498bd32a1c7fdf85257242006dd6cb/4803ccfc3612a8228525770b004a2b01!OpenDocument&Date=2010-07-26>

### Meeting Summary

The discussion followed the issues and general timing as presented in the meeting agenda posted at the URL above.

### **MONDAY, JULY 26, 2010**

#### Opening of Public Meeting

Dr. Holly Stallworth, Designated Federal Officer (DFO), opened the meeting with a statement that the CASAC Particulate Matter Review Panel is a federal advisory committee whose meetings and deliberations meet the requirements of the Federal Advisory Committee Act. Dr. Samet reviewed the agenda and purpose of the meeting and each member introduced himself. Ms. Lydia Wegman of EPA Office of Air Quality Planning and Standards then presented the schedule for the PM review as shown in her presentation slides (“Schedule and Development of Policy Assessment for PM NAAQS”) posted at the above URL. Dr. Karen Martin, also of OAQPS, previewed a new indicator developed by EPA for the *Second Draft Policy Assessment*: the Speciated PM<sub>2.5</sub> Mass-Calculated Light Extinction Indicator.

During the public comment period, a total of 8 people presented comments. The first public commenter, Dr. Jay Turim on behalf of the American Chemistry Council, pointed

out limitations in the epidemiological studies and highlighted the unreliability of statistical methods. Ms. Deborah Shprentz, on behalf of the American Lung Association, stressed the short term effects of exposure to PM<sub>2.5</sub> and criticized EPA for proposing a 24-hour standard of 30 µg/m<sup>3</sup> only in conjunction with the annual standard of 11 µg/m<sup>3</sup>. Ms. Shprentz suggested that a lower 24-hour standard would be needed even more when the annual standard was higher. Ms. Shprentz was also critical of EPA's proposal to change the form of the 24-hour coarse particle standard to the 98<sup>th</sup> percentile. Mr. Ben Brandes of the National Mining Association spoke about the potential for economic impacts if the PM<sub>10</sub> standard is lowered and recommended that the existing PM<sub>10</sub> standard not be revised. Mr. Greg Schaefer of Arch Coal also recommended that the current coarse particle standard not be revised given its potential to disproportionately impact the western U.S. Mr. Wig Zamore of the Somerville Transportation Equity Partnership and Mystic View Task Force, called for the strictest PM<sub>2.5</sub> standard possible. Dr. Julie Goodman, on behalf of the American Petroleum Institute, spoke about the nonlinearity of relationships between PM and health effects. Mr. Jon Heuss of Air Improvement Resources stressed the differential toxicities of PM<sub>2.5</sub>. Mr. John Richards, on behalf of the Coarse PM Coalition, spoke about the spatial nonuniformity of coarse PM and displayed coefficients of divergence between co-located PM<sub>10</sub> and PM<sub>2.5</sub> monitors. Finally, Dr. Deborah Dreschler of the California Air Resource Board spoke by phone to express support for the conclusions in the *Second Draft Policy Assessment*.

Dr. Samet led the Panel through a discussion of the charge questions. Panelists voiced support for EPA's translation of epidemiological, risk and air quality information into conclusions on proposed standards for the Administrator's consideration. In response to the Panel's discussion of population exposure based monitoring, Dr. Martin clarified that EPA uses community wide monitors (rather than localized monitors) to determine compliance with the annual standard. In reference to Charge Question 3, OAQPS presented three PM<sub>2.5</sub> studies reporting confidence bounds around the concentration-response function. One panelist took issue with EPA's conclusion that the confidence bounds did not provide new information that would contribute to defining the range of alternative PM<sub>2.5</sub> standard that would be appropriate for consideration in this review.

Panelists voiced support for EPA's conclusion that consideration should be given to retaining the current 24-hour standard of 35 µg/m<sup>3</sup> in conjunction with annual standards in the range of 13 – 11 µg/m<sup>3</sup> and that consideration could also be given to an alternative 24-hour standard level of 30 µg/m<sup>3</sup>. Some panelists, however, commented that the *Quantitative Health Risk Assessment* (2010) did not analyze the same range and combination of annual and 24-hour standards as contemplated in the *Second Draft Policy Assessment*.

After lunch, Mr. Tim Hanley of the OAQPS monitoring group, described the network of 930 monitors across the country that are used to determine compliance with the PM<sub>2.5</sub> standard. Of these 930, all but a dozen are applicable to the annual standard. According to Mr. Hanley, community wide monitoring has been emphasized since 1997.

In reference to areas for future research, panelists suggested the document was insufficiently clear about EPA's overall priorities in preparing for the next PM NAAQS review. Dr. Vanessa Vu, Director of the Science Advisory Board Staff Office, spoke about the possibility of CASAC advising EPA on its PM research priorities at a future meeting or workshop.

In reference to coarse particles, panelists voiced support for EPA's translation of the available evidence and air quality information into a basis for reviewing the coarse particle standard while also emphasizing the inherent deficiencies in the data. While panelists agreed with EPA's preference for a 98<sup>th</sup> percentile form of the standard, they did not express support for the upper end of EPA's proposed range 85  $\mu\text{g}/\text{m}^3$  - 65  $\mu\text{g}/\text{m}^3$ . Panelists debated the merits of switching to the PM<sub>10-2.5</sub> indicator versus continuing to use the PM<sub>10</sub> indicator. Some panelists felt that a switch would quickly spur the appropriate monitoring while others preferred to wait until the monitoring network was in place.

### **TUESDAY, JULY 27, 2010**

On the second day of the meeting, the Panel addressed the *Second Draft Policy Assessment's* chapter on the secondary standard. Panelists agreed that *Second Draft Policy Assessment* presented information that clearly indicates that the current PM<sub>2.5</sub> standards do not protect against levels of visual air quality which have been judged to be unacceptable. Panelists voiced support for the EPA's approach to translating the technical evidence and assessment results into a basis for reviewing and revising the current secondary fine particle standard. Panelists debated the relative merits of the three indicators discussed by EPA: a PM<sub>2.5</sub> Mass Indicator, a Speciated PM<sub>2.5</sub> Mass-calculated Light Extinction Indicator and Directly Measured PM<sub>2.5</sub> Light Extinction Indicator. Dr. Martin and other OAQPS staff spoke about the barriers that would impede the implementation of a Directly Measured PM<sub>2.5</sub> Light Extinction Indicator, specifically the absence of a Federal Reference Method (FRM) for measuring light extinction. While the Panel strongly preferred direct measurements, warnings from OAQPS about the potential for long delays in implementing such a standard prompted them to reconsider both the PM<sub>2.5</sub> Mass Indicator and the hybrid approach (Speciated PM<sub>2.5</sub> Mass-calculated Light Extinction Indicator). Dr. Martin referenced the letter of April 29, 2010 in which the Ambient Air Monitoring and Methods Subcommittee which prompted EPA to develop its "hybrid" approach using mass enhanced with speciation and humidity data (Speciated PM<sub>2.5</sub> Mass-calculated Light Extinction Indicator). Although panelists preferred the hybrid approach as a "bridge" to the future, Dr. Martin said EPA cannot, while issuing one regulation, commit to changing that regulation at some time in the future. Dr. Martin said EPA would contemplate ways to simplify the hybrid approach and whether to develop a third draft of the visibility chapter for CASAC review.

Before the Panel adjourned, Dr. Stallworth pledged to schedule a teleconference and send out a draft letter to the Administrator along with consensus responses to charge questions for the Panel's review.

Respectfully Submitted:

Holly Stallworth, Ph.D. /s/  
Designated Federal Officer

Certified as True:

Jonathan Samet, M.D., M.S. /s/  
Chair

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by Committee member during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from the panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.