

**U.S. Environmental Protection Agency  
Clean Air Scientific Advisory Committee (CASAC)  
CASAC Lead Review Panel**

**Summary Meeting Minutes of the CASAC Lead Review Panel  
Public Advisory Teleconference**

**Monday, June 9, 2008 – 1:00 to 3:00 p.m. Eastern Time**

**SAB Staff Office, Washington DC**

**Advisory Meeting to Provide Comments Concerning EPA’s Proposed Rule for  
the Revision of the National Ambient Air Quality Standard (NAAQS) for  
Lead (May 2008)**

Panel Members: See CASAC Lead Review Panel Roster – Appendix A

Agenda: See Meeting Agenda – Appendix B

Purpose: The purpose of this public teleconference meeting was for the CASAC Lead Review Panel to provide comments concerning EPA’s proposed rule for the revision of the National Ambient Air Quality Standard (NAAQS) for Lead (May 1, 2008).

Attendees:

|                |  |
|----------------|--|
| Chair:         | Dr. Rogene Henderson   |
| CASAC Members: | Dr. Ellis Cowling<br>Dr. Douglas Crawford-Brown<br>Dr. Donna Kenski<br>Dr. Armistead (Ted) Russell<br>Dr. Jonathan Samet   |
| Panel Members: | Dr. Joshua Cohen<br>Dr. Deborah Cory-Slechta<br>Dr. Bruce Fowler<br>Dr. Andrew Friedland<br>Dr. Bruce Lanphear<br>Dr. Frederick J. Miller<br>Dr. Paul Mushak<br>Mr. Richard Poirot<br>Dr. Michael Rabinowitz<br>Dr. Frank Speizer<br>Dr. Ian von Lindern |
| EPA SAB Staff: | Mr. Fred Butterfield, CASAC Designated Federal Officer (DFO)   |

Other EPA Staff: Mr. Kevin Cavender, OAR, OAQPS  
Mr. James Hemby, OAR, OAQPS  
Dr. Jee Young Kim, ORD, NCEA-RTP  
Mr. Phil Lorang, OAR, OAQPS  
Dr. Karen Martin, OAR, OAQPS  
Dr. Deirdre Murphy, OAR, OAQPS  
Dr. Zachary Pekar, OAR, OAQPS  
Dr. Mary Ross, ORD, NCEA-RTP  
Ms. Vicki Sandiford, OAR, OAQPS  
Ms. Susan Stone, OAR, OAQPS  
Ms. Debra Walsh, ORD, NCEA-RTP  
Dr. David Svendsgaard, ORD, NCEA-RTP

### Meeting Summary

The discussion followed the issues and general timing as presented in the meeting agenda (Appendix B).

### Convene Meeting, Call Attendance, Introduction and Administration

Mr. Fred Butterfield, Designated Federal Officer (DFO) for the Clean Air Scientific Advisory Committee, opened the teleconference meeting, called attendance, and welcomed all attendees. He noted the CASAC is a Federal Advisory Committee chartered under the Federal Advisory Committee Act (FACA) to provide advice and recommendations to the EPA Administrator. Consistent with FACA regulations, the deliberations of CASAC are held as public meetings and teleconferences for which advance notice is given in the *Federal Register*. The DFO is present at all such meetings to assure compliance with FACA requirements. He mentioned that there was one (1) individual making an oral public statement today. Mr. Butterfield said a transcript of this teleconference is not being taken; however, summary minutes were taken (by the DFO) for this teleconference meeting. These minutes will be certified by the CASAC (and Lead Review Panel) Chair and posted on the SAB Web Site (<http://www.epa.gov/sab/>) within 90 days after the meeting. Mr. Butterfield noted that all panelists had earlier submitted documentation with respect to possible financial conflicts-of-interest or appearances of a lack of impartiality, which was reviewed by the SAB staff prior to the teleconference meeting and found to be satisfactory.

### Purpose of Meeting and Welcome

Dr. Rogene Henderson, CASAC and Lead Review Panel Chair, welcomed Panel members and briefly stated the purpose of the meeting (see above).

### Public Comment Period

Mr. Butterfield, CASAC DFO, facilitated the formal public comment period. The following member of the public had signed-up in advance to offer oral public comments:

- Ms. Kate Pawasarat, Engineering and Science Fellow, Washington University in St. Louis Interdisciplinary Environmental Clinic

Ms. Kate Pawasarat's public statement is attached in Appendix C.

Summary of the CASAC Lead Review Panel's Discussion Concerning EPA's Proposed Rule for the Revision of the NAAQS for Lead

Major points and conclusions from Lead Panel members' discussion concerning the Agency's proposed rule — also known as the Notice of Proposed Rulemaking (NPR) — for the Revision of the Lead (Pb) NAAQS include the following:

- Lead Panel members expressed disappointment that the Agency proposed a range for the level of the standard that includes an upper bound (*i.e.*,  $0.3 \mu\text{g}/\text{m}^3$ ) that is higher (and thus less health-protective) than that recommended in the final EPA Staff Paper and by the CASAC in any of its previous letters to the Administrator on this subject. In addition, several Panel members were indignant that the NPR for the Lead NAAQS invited public comments on a level of the primary Lead NAAQS from 0.3 to  $0.5 \mu\text{g}/\text{m}^3$ .
- CASAC and Lead Panel members noted ongoing problems with respect to the implementation of EPA's revised NAAQS review process; and Committee members expressed disappointment that there has been no response from the Agency to the CASAC's January 23, 2008 letter to the Administrator in which the Committee made specific recommendations concerning modifications to EPA's new NAAQS review process. Specifically, one CASAC member noted that, in view of the continually-shifting and unclear process, the Agency was apparently lacking a reliable, standard "roadmap" for its NAAQS reviews.
- Panelists expressed surprise at the last-minute introduction of a new analytical framework — *i.e.*, the "Air-related IQ Loss Evidence-based Framework" — as the EPA-expressed basis for setting the Lead NAAQS, noting that this framework had not been previously presented for review by the CASAC or the public.
- Lead Panel members took exception to the Agency's consideration of values for certain critical parameters (*e.g.*, the air-to-blood ratio and the slope of the concentration-response function [C-R] curve) in this new analytical framework that are appreciably different than those recommended by the CASAC, and, importantly, that would justify a significantly-higher level for the primary Pb NAAQS than the Committee recommended. In particular, Panelists commented that the values for air-to-blood ratio and the slope of the C-R function curve that CASAC recommended are more relevant for the low levels of blood lead (Pb-B) found in U.S. children today.
- Panel members remarked on what they deemed to be the misrepresentation of the Committee's statement that "the primary lead standard should be set so as to protect 99.5 % of the population from exceeding an IQ loss of 1-2 points" to wrongfully suggest that the CASAC declared that an *average* loss of one to two IQ points in the population was an acceptable public-health endpoint. One Panel member noted that a loss of 1–2 IQ points was "very, very serious" — much more so than, for example, an increase of one to two millimeters of mercury (mm Hg) in blood pressure.
- With regard to the Pb NAAQS indicator, Lead Panel members expressed concerns about the CASAC's previous recommendations that a revised Pb NAAQS should be accompanied by a transition of the sampling indicator from TSP to a low-volume ambient air

monitor for lead in PM<sub>10</sub>), noting that the CASAC recommendations assumed that the level of the primary Pb NAAQS would be “substantially” lowered to the ranges recommended by EPA staff. However, since the Agency is now considering an upper bound of 0.3 µg/m<sup>3</sup> — and possibly as high as 0.5 µg/m<sup>3</sup> — a transition from TSP to PM<sub>10</sub> at these much less protective upper levels of the proposed range could significantly weaken the health protectiveness that is afforded.

- Lead Panel members discussed the NPR’s proposed consideration of a monthly averaging time with a “second highest month in three years” form, noting that there is no logic for averaging only by “calendar” quarter. A “rolling” three-month (or 90-day) average would be more logical than a “calendar” quarter, and a monthly or “rolling” 30-day averaging time with a “not to be exceeded” form would be even more protective against adverse short-term effects than the “second-highest month in three years” form.

### Summary and Next Steps

Dr. Henderson thanked the members of the Lead Panel for their participation in today’s teleconference and requested that members provide any specific comments or wording for her to use in developing her initial-draft letter to the EPA Administrator as soon as possible, but by no later than mid-day on Wednesday, June 11. The Chair and the DFO will work to be able to send this draft letter to all Lead Panelists by the end of the week for Panel members’ initial review and comments, with a goal of having all active members of the panel concur on a “working draft” letter that the DFO will have posted on the associated “meeting” page of the CASAC Web site (<http://www.epa.gov/casac/>) for public review by no later than Monday, June 30, which is five (5) business days prior to the Panel's follow-on teleconference scheduled for Tuesday, July 8, beginning at 1:00 PM EDT. The purpose of the 7/8 conference call is for the Lead Panel to publicly review, and for the chartered CASAC to approve, the draft letter to the EPA Administrator. The DFO also noted that Panel members’ individual written comments will not be appended to this final letter.

The DFO adjourned the meeting at approximately 3:00 p.m. on June 9, 2008.

Respectfully Submitted:

Certified as True:

/s/

/s/

*Fred A. Butterfield, III*

*Rogene F. Henderson, Ph.D.*

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Fred A. Butterfield, III  
CASAC DFO

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Rogene F. Henderson, Ph.D.  
CASAC Chair

Date: July 7, 2008

## Appendix A – Roster of the CASAC Lead Review Panel

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### U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC) CASAC Lead Review Panel

#### CASAC MEMBERS

**Dr. Rogene Henderson (Chair)**, Scientist Emeritus, Lovelace Respiratory Research Institute, Albuquerque, NM

**Dr. Ellis Cowling**, University Distinguished Professor At-Large, Emeritus, Colleges of Natural Resources and Agriculture and Life Sciences, North Carolina State University, Raleigh, NC

**Dr. James D. Crapo [M.D.]**, Professor, Department of Medicine, National Jewish Medical and Research Center, Denver, CO

**Dr. Douglas Crawford-Brown**, Director, Carolina Environmental Program; Professor, Environmental Sciences and Engineering; and Professor, Public Policy, Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC

**Dr. Donna Kenski**, Director of Data Analysis, Lake Michigan Air Directors Consortium (LADCO), Rosemont, IL

**Dr. Armistead (Ted) Russell**, Georgia Power Distinguished Professor of Environmental Engineering, Environmental Engineering Group, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA

**Dr. Jonathan Samet [M.D.]**, Professor and Chairman, Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD

#### PANEL MEMBERS

**Dr. Joshua Cohen**, Research Associate Professor of Medicine, Tufts University School of Medicine, Institute for Clinical Research and Health Policy Studies, Center for the Evaluation of Value and Risk, Tufts New England Medical Center, Boston, MA

**Dr. Deborah Cory-Slechta**, Professor, Department of Environmental Medicine, University of Rochester School of Medicine and Dentistry, Rochester, NY

**Dr. Bruce Fowler**, Assistant Director for Science, Division of Toxicology and Environmental Medicine, Office of the Director, Agency for Toxic Substances and Disease Registry, U.S. Centers for Disease Control and Prevention (ATSDR/CDC), Chamblee, GA

**Dr. Andrew Friedland**, Professor and Chair, Environmental Studies Program, Dartmouth College, Hanover, NH

**Mr. Sean Hays**, President, Summit Toxicology, Allenspark, CO

**Dr. Bruce Lanphear [M.D.]**, Sloan Professor of Children's Environmental Health, and the Director of the Cincinnati Children's Environmental Health Center at Cincinnati Children's Hospital Medical Center and the University of Cincinnati, Cincinnati, OH

**Dr. Samuel Luoma**,\* Senior Research Hydrologist, Emeritus, U.S. Geological Survey (USGS), Menlo Park, CA

**Dr. Frederick J. Miller**, Consultant, Cary, NC

**Dr. Paul Mushak**, Principal, PB Associates, and Visiting Professor, Albert Einstein College of Medicine (New York, NY), Durham, NC

**Dr. Michael Newman**, Professor of Marine Science, School of Marine Sciences, Virginia Institute of Marine Science, College of William & Mary, Gloucester Point, VA

**Mr. Richard L. Poirot**, Environmental Analyst, Air Pollution Control Division, Department of Environmental Conservation, Vermont Agency of Natural Resources, Waterbury, VT

**Dr. Michael Rabinowitz**, Geochemist, Marine Biological Laboratory, Woods Hole, MA

**Dr. Joel Schwartz**, Professor, Environmental Health, Harvard University School of Public Health, Boston, MA

**Dr. Frank Speizer [M.D.]**, Edward Kass Professor of Medicine, Channing Laboratory, Harvard Medical School, Boston, MA

**Dr. Ian von Lindern**, Senior Scientist, TerraGraphics Environmental Engineering, Inc., Moscow, ID

**Dr. Barbara Zielinska**, Research Professor, Division of Atmospheric Science, Desert Research Institute, Reno, NV

#### **SCIENCE ADVISORY BOARD STAFF**

**Mr. Fred Butterfield**, CASAC Designated Federal Officer, 1200 Pennsylvania Avenue, N.W., Washington, DC, 20460, Phone: 202-343-9994, Fax: 202-233-0643 ([butterfield.fred@epa.gov](mailto:butterfield.fred@epa.gov))

\*Dr. Luoma did not participate in this CASAC Lead Review Panel advisory activity.

## Appendix B – Meeting Agenda

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**U.S. Environmental Protection Agency  
Clean Air Scientific Advisory Committee (CASAC)  
CASAC Lead Review Panel**

**Public Advisory Teleconference Meeting**

**Monday, June 9, 2008 – 1:00 to 5:00 p.m. Eastern Time**

**Advisory Meeting to Provide Comments Concerning EPA’s Proposed Rule  
for the Revision of the National Ambient Air Quality Standard (NAAQS)  
for Lead (May 2008)**

**Meeting Agenda**

|           |  |                                    |
|-----------|--|------------------------------------|
| 1:00 p.m. | <b>Convene teleconference; call attendance; introductions and administration</b> | Mr. Fred Butterfield,<br>CASAC DFO |
| 1:10 p.m. | <b>Purpose of meeting</b>  | Dr. Rogene Henderson, Chair        |
| 1:15 p.m. | <b>Public comment period</b>   | Mr. Butterfield (Facilitator)      |
| 1:45 p.m. | <b>Panel members’ discussions</b>  | CASAC Lead Review Panel            |

**Discussion Topic**

- **Proposed public health-based (primary) Pb NAAQS**
- **Proposed welfare-based (secondary) Pb NAAQS**
- **Proposed amendments to ambient monitoring requirements (Pb-PM<sub>10</sub> and Pb-TSP)**

|           |                               |                 |
|-----------|-------------------------------|-----------------|
| 4:45 p.m. | <b>Summary and next steps</b> | Dr. Henderson   |
| 5:00 p.m. | <b>Adjourn meeting</b>        | Mr. Butterfield |

## Appendix C – Public Comments

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### **Ms. Kate Pawasarat, Engineering and Science Fellow, Washington University in St. Louis Interdisciplinary Environmental Clinic**

Good afternoon. My name is Kate Pawasarat, and I am the Engineering and Science Fellow at the Washington University Interdisciplinary Environmental Clinic. I would like to read the following comments on behalf of the Missouri Coalition for the Environment and Leslie and Jack Warden, clients of the Clinic, regarding the Lead NAAQS Proposed Rule.

#### **First, the standard should protect public health with an adequate margin of safety.**

Lead is now known to cause negative health effects even at very low exposure levels, particularly among children. Properly evaluating public health impacts is a critical component of setting the lead standard. CASAC has stated that “a population loss of 1-2 IQ points is highly significant from a public health perspective” and that the standard should “be set to protect 99.5% of the population from exceeding that IQ loss.”

However, in the Proposed Rule, EPA applies the 1-2 point IQ loss range to the population mean rather than the 99.5<sup>th</sup> percentile. EPA’s proposal lacks the margin of safety and level of protection provided by the CASAC recommendations. The potential public health impacts of EPA’s proposal, particularly for susceptible subpopulations, is concerning.

#### **Second, the Lead NAAQS is a science-based standard.**

We appreciate the efforts of the CASAC Lead Panel and its involvement in the review of the lead NAAQS. Throughout this process, CASAC has provided valuable input to ensure that the documents generated during the lead NAAQS review reflect the current scientific evidence and available data on lead exposure and risk. Based on this information, CASAC has repeatedly recommended a lead NAAQS level no higher than 0.2 micrograms per cubic meter [ $0.2 \mu\text{g}/\text{m}^3$ ] as a monthly average. This is consistent with recommendations made by EPA Staff.

However, the Proposed Rule indicates that EPA is considering lead NAAQS levels as high as  $0.3 \mu\text{g}/\text{m}^3$ . In addition, EPA has invited comments on levels up to  $0.5 \mu\text{g}/\text{m}^3$ , over twice the level recommended by CASAC and EPA Staff.

We support the work of CASAC as it continues to provide strong recommendations for an appropriate science-based standard. We urge EPA to follow the recommendations of its own staff and CASAC so that the lead NAAQS reflects the current scientific evidence and protects public health with an adequate margin of safety.