

**U.S. Environmental Protection Agency
EPA Science Advisory Board (SAB) Staff Office
Clean Air Scientific Advisory Committee (CASAC)
CASAC Panel for Review of EPA's Lead Renovation, Repair, and Painting (LRRP) Activities**

Summary Meeting Minutes of the CASAC's Public Advisory Teleconference

Tuesday, August 7, 2007 – 1:00 to 5:00 p.m. Eastern Time

SAB Staff Office, Washington DC

**Advisory Meeting to Discuss the CASAC's Draft Letter to the EPA
Administrator re: the LRRP Panel's July 9–10, 2007 Peer-Review of EPA's
Draft LRRP Activity IQ-Change Methodology and the OPPT Dust Study**

Panel Members: See CASAC Panel Roster – Appendix A

Agenda: See Meeting Agenda – Appendix B

Purpose: The purpose of this public meeting was for the CASAC Panel to hold follow-on discussions to inform the Committee's forthcoming letter to the EPA Administrator resulting from its July 9-10, 2007 meeting to conduct a peer review of: (1) EPA's *Draft Approach for Estimating Changes in Children's IQ from Lead Dust Generated During Renovation, Repair, and Painting in Residences and Child-Occupied Facilities* (Draft LRRP Activity IQ-Change Methodology, June 2007); and (2) EPA's *Draft Final Report on Characterization of Dust Lead Levels After Renovation, Repair, and Painting Activities* (OPPT Dust Study, January 2007)

Attendees:

Chair: Dr. Rogene Henderson

CASAC Members: Dr. Ellis Cowling
Dr. James Crapo
Dr. Douglas Crawford-Brown
Dr. Armistead (Ted) Russell
Dr. Frank Speizer

Panel Members: Dr. Joshua Cohen
Dr. Deborah Cory-Slechta
Dr. Richard Fenske
Dr. Bruce Fowler
Dr. Philip Goodrum
Dr. Robert Goyer
Dr. Bruce Lanphear
Dr. Frederick J. Miller
Dr. Maria Morandi
Dr. Paul Mushak
Dr. Michael Rabinowitz
Dr. Barbara Zielinska

EPA SAB Staff: Mr. Fred Butterfield, CASAC Designated Federal Officer (DFO)

Other EPA Staff: Ms. Lynn Delpire, OPPTS, OPPT
Dr. Maria Doa, OPPTS, OPPT
Ms. Cathy Fehrenbacher, OPPTS, OPPT
Mr. Conrad Flessner, OPPTS, OPPT
Dr. Elizabeth Margosches, OPPTS, OPPT
Ms. Jackie Mosby, OPPTS, OPPT
Dr. Andrea Pfahles-Hutchens, OPPTS, OPPT
Dr. Jennifer Seed, OPPTS, OPPT
Ms. Cindy Wheeler, OPPTS, OPPT

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 would be no individuals making public comments 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 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, Clean Air Scientific Advisory Committee and Chair of the CASAC Panel for Review of EPA's Lead Renovation, Repair, and Painting (LRRP) Activities, welcomed Panel members and briefly stated the purpose of the meeting (see above).

Public Comment Period

Dr. A.J. Holliday, Federal Regulatory Counsel for the National Association of Home Builders (NAHB), offered public comments to the CASAC LRRP Panel on behalf of the NAHB on EPA's *Draft Approach for Estimating Changes in Children's IQ from Lead Dust Generated During Renovation, Repair, and Painting in Residences and Child-Occupied Facilities*, Dr. Holliday stated that the Approach deserves very close scrutiny by the CASAC LRRP Panel,

noting that the forthcoming LRRP rule is much different than the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants with which the CASAC is more familiar. In summary, Dr. Holliday stated that, while the Approach presents a simple, intuitively-appealing model, a check of the facts shows that: it does not describe or correspond to the remodeling process; its statistical procedures are fatally inappropriate; and the methodology is not supported by the empirical record. (A copy of the NAHB's entire nine-page written statement is located in the Federal Advisory Committee Act file for this teleconference meeting, and is available from the CASAC DFO upon request.) A brief question-and-answer session with several LRRP Panel members followed.

Summary of the LRRP Panel's Discussions Concerning the CASAC's Draft Letter to the EPA Administrator re: the Draft LRRP Activity IQ-Change Methodology and the OPPT Dust Study

Dr. Maria Doa, Director, National Program Chemicals Division, EPA's Office of Pollution Prevention and Toxics (OPPT), and Dr. Jennifer Seed, Chief, Existing Chemicals Assessment Branch, Risk Assessment Division, OPPT, offered their brief remarks. These included their request that the CASAC separate its concerns and associated recommendations about regulatory and methodological issues in the forthcoming letter to the Administrator.

The majority of the discussion concerned the use of biokinetic models in lieu of, or in concert with, empirical data. The LRRP Panel noted that the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children is unsuitable in this exposure scenario because it does not allow use of episodic exposure data input. Several Panel members noted that, while the Leggett model does allow use of episodic exposure data, it appears to be biased high when compared to the IEUBK and O'Flaherty models applied to the same steady-state exposure scenarios, and therefore its use should include a calculation of the high uncertainty associated with the model. The Panel also favored greater use of empirical data (for estimating blood lead levels following exposure to lead dust during renovation activities) specifically to aid in the evaluation of the usefulness of the biokinetic component of the Leggett model.

The Panel ultimately recommended that the Leggett model be used as the biokinetic model of choice for modeling of childhood lead exposures occurring during LRRP activities, because (1) the IEUBK model is inappropriate for acute, short-term lead exposures of children; and (2) time does not allow substitute use of the potentially-better O'Flaherty model. The Leggett model has a positive bias to its output (blood lead) when compared to blood lead outputs of the IEUBK and O'Flaherty models but the size of that bias *in absolute terms* is not precisely known. Therefore, as noted in the preceding paragraph, the uncertainty associated with use of the Leggett model must be described. The use of the Leggett model also has the advantage that it will not lead to underestimation of lead exposure and subsequent health risks.

Other issues noted during the teleconference and/or in LRRP Panel members' individual written comments include the following:

- The Panel broadly recommends that the agency give much greater priority to this effort of developing improved processes for lead renovation, repair, and painting (RRP) activities so as to decrease childhood lead exposures in homes and other child-occupied facilities (COFs) in various parts of our country.

- The LRRP Panel notes that the limited data from residential housing units and COFs included in the Dust Study (which are used as input into the biokinetic models) may not represent a valid sample of housing at the *national* level. However, this may ultimately not be a critical issue since the examples studied likely represent high-hazard scenarios reflective of the upper tails of the distribution. Nevertheless, several modifications in the Dust Study design falsely diminish the estimation of risk from lead exposure due to repair and renovation activities, *e.g.*, excluding eight out of 35 housing units because they were in poor condition; excluding housing units with floors in poor condition; use of sample trays in place of window sills because of inability to achieve clearance standards; and the use of plastic sheeting on some tool and observation rooms. Panel members conclude that studying dust values above the maximum values measured in the OPPT Dust Study would be appropriate to address some of the uncertainties involved in the limitations of this report.
- Changing the geometric standard deviation (GSD) from 1.2 to 1.6 would address some of the Panel's concerns about the lack of consideration for the activity patterns of children as a sensitive subpopulation.

Summary and Next Steps

Dr. Henderson asked CASAC LRRP Panel members to provide revised/updated or supplemental language both to her and Mr. Butterfield, CASAC DFO, for the next version of the Panel's draft (V1-2) letter/report from the CASAC to the Administrator. These additional inputs are requested as soon as practicable, but by no later than Thursday, August 9, 2007.

Dr. Henderson and Mr. Butterfield thanked the EPA staff and CASAC Panel members for their participation in this afternoon's teleconference. The DFO adjourned the meeting at 4:15 p.m.

Respectfully Submitted:

Certified as True:

/s/

/s/

Fred A. Butterfield, III

Rogene Henderson, Ph.D.

Fred A. Butterfield, III
CASAC DFO

Rogene Henderson, Ph.D.
CASAC Chair

Date: September 27, 2007

Appendix A – Roster of the CASAC Panel for Review of EPA's LRRP Activities

**U.S. Environmental Protection Agency
Science Advisory Board (SAB) Staff Office
Clean Air Scientific Advisory Committee (CASAC)
CASAC Panel for Review of EPA's Lead Renovation,
Repair, and Painting (LRRP) Activities**

CHAIR

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

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**, Director, University of Medicine and Dentistry of New Jersey and Rutgers State University, Piscataway, NJ

Dr. Ellis Cowling*, University Distinguished Professor-at-Large, North Carolina State University, 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. Richard Fenske†, Professor, Department of Environmental and Occupational Health Sciences, School of Public Health and Community Medicine, University of Washington, Seattle, WA

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. Philip Goodrum†, Senior Scientist I/Manager, ARCADIS BBL, ARCADIS of New York, Inc., Syracuse, NY

Dr. Robert Goyer [M.D.]**, Emeritus Professor of Pathology, Faculty of Medicine, University of Western Ontario (Canada), Chapel Hill, NC

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

Dr. Maria Morandi†, Assistant Professor of Environmental Science & Occupational Health, Department of Environmental Sciences, School of Public Health, University of Texas – Houston Health Science Center, Houston, TX

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

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. 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. 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)

* Members of the statutory Clean Air Scientific Advisory Committee (CASAC) appointed by the EPA Administrator

** Members of the CASAC Lead Review Panel

† Members of the Science Advisory Board (SAB) or SAB panel

Appendix B – Meeting Agenda

**U.S. Environmental Protection Agency
 EPA Science Advisory Board (SAB) Staff Office
 Clean Air Scientific Advisory Committee (CASAC)**

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 Lead Renovation, Repair, and Painting (LRRP) Activities**

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**Advisory Meeting to Discuss the CASAC's Draft Letter to the EPA
 Administrator re: the LRRP Panel's July 9–10, 2007 Peer-Review of EPA's
 Draft LRRP Activity IQ-Change Methodology and the OPPT Dust Study**

Meeting Agenda

1:00 p.m.	Convene Teleconference; Call Attendance; Introductions and Administration	Mr. Fred Butterfield, CASAC DFO
1:10 p.m.	Purpose of Meeting	Dr. Rogene Henderson, Chair
1:15 p.m.	Public Comment Period	Mr. Butterfield (Facilitator)
1:20 p.m.	EPA Program Office Comments & Questions	OPPT (TBD)
1:30 p.m.	Members' Discussion and Deliberation	Dr. Henderson CASAC LRRP Panel Members
4:45 p.m.	Summary and Next Steps	Dr. Henderson
5:00 p.m.	Adjourn Meeting	Mr. Butterfield