

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

**Summary Meeting Minutes of CASAC Subcommittee Public Advisory Teleconference Meeting**

**Monday, May 5, 2008 – 10:00 a.m. to 1:00 p.m. Eastern Time**

**SAB Staff Office, Washington DC**

**Advisory Meeting to Review and Approve CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel's Draft Report from April 2008 Peer Review of EPA's 1<sup>st</sup> Draft *Integrated Science Assessment (ISA) for Oxides of Nitrogen and Sulfur – Environmental Criteria***

Panel Members: See CASAC Roster – Appendix A

Agenda: See Meeting Agenda – Appendix B

Purpose: The purpose of this public teleconference meeting was for the statutory (chartered) CASAC to review and approve the draft letter/report from the April 2–3, 2008 meeting of the CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel to conduct a peer review of EPA's 1<sup>st</sup> Draft *Integrated Science Assessment (ISA) for Oxides of Nitrogen and Sulfur – Environmental Criteria*.

Attendees:

Chair:	Dr. Rogene Henderson
CASAC Members:	Dr. Ellis Cowling Dr. James Crapo Dr. Douglas Crawford-Brown Dr. Donna Kenski Dr. Armistead (Ted) Russell Dr. Jonathan Samet
Panel Members:	Dr. Praveen Amar Dr. Myron Mitchell
EPA SAB Staff:	Mr. Fred Butterfield, Designated Federal Officer (DFO), CASAC Ms. Kyndall Barry, DFO, CASAC NO <sub>x</sub> & SO <sub>x</sub> Secondary NAAQS Review Panel Dr. Tony Maciorowski, Deputy Director, Science Advisory Board (SAB) Staff Office

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 were no individuals who had registered with him in advance to provide oral public comments during today's teleconference. Mr. Butterfield said a transcript of this teleconference is not being taken. However, summary meeting minutes were taken (by the DFO) for this teleconference. These minutes will be certified by the CASAC Chair, Dr. Rogene Henderson, and posted on the CASAC Web Site (<http://www.epa.gov/casac>) within 90 days after this meeting.

### Purpose of Meeting and Welcome

Dr. Henderson, Chair of the CASAC, welcomed her fellow Committee members and briefly stated the purpose of the meeting (see above).

### Overview of Draft Report from CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel

Dr. Ted Russell, Chair of the CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel, gave a brief overview of the draft report from the Panel's April 2–3, 2008 peer review of EPA's 1<sup>st</sup> Draft *ISA for Oxides of Nitrogen and Sulfur – Environmental Criteria*.

### Public Comment Period

(There were no public commenters during this teleconference.)

### Summary of the CASAC's Discussion on Panel's Draft Report

Dr. Russell noted that this ISA did not consider either visibility or climate-change issues; rather, these will be covered during the forthcoming review of the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM). He also commented that the ISA did not adequately cover the issue of "reduced nitrogen." Nevertheless, Dr. Russell added that the major endpoints of concern with respect to deposition of oxides of nitrogen (NO<sub>x</sub>) and sulfur oxides (SO<sub>x</sub>) are presented well, including ample justification as to why these are critical; thus, he concluded that the ISA provided a "good roadmap." In addition, Dr. Russell remarked that there were not many research studies to rely upon, particularly case studies, that provide data demonstrating a quantitative relationship between exposure and adverse environmental effects — in other words, a "limited body of evidence."

In response to the question from a fellow CASAC member as to whether the draft ISA for NO<sub>x</sub> & SO<sub>x</sub> – Environmental Criteria furnished the data available to provide a defensible scientific basis for regulatory decision-making, Dr. Russell replied to the negative. Moreover, he noted that the document needs to include an Executive Summary to bring forward the key points and

findings from the individual ISA chapters, with particular emphasis on the summary and conclusions. Significantly, the Executive Summary should also provide improved linkages between the atmospheric concentrations of these pollutants and their environmental effects (“ecosystem endpoints”). Additionally, Dr. Russell commented that NO<sub>x</sub> and SO<sub>x</sub> need to be considered in a multi-pollutant and multi-effects framework.

Another Committee member noted that he would like to see a stronger letter from CASAC, and that it should specify where there are research deficiencies so that the Agency can request additional funding to fill-in these gaps. Furthermore, he added that the data section of the ISA needs to be strengthened considerably, in order to provide the solid scientific foundation for eventual NAAQS-related decision-making, and explicitly requested that the necessary quantitative data and associated analyses be accumulated in the ISA on which the Agency can firmly base any future changes in the standards.

The Committee spent a considerable amount of time discussing the issue of “total reactive nitrogen” (Nr). It was agreed there should be a footnote in the ISA defining Nr, and that the words “and organic” should be added to this definition, so that it is clear that total reactive nitrogen includes “oxidized, reduced and organic forms of nitrogen.”

Following additional, brief discussions, Dr. Henderson asked if there were any objections to the CASAC approving this draft letter to the Administrator pursuant to the NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel’s April 2008 peer review of EPA’s draft ISA for NO<sub>x</sub> & SO<sub>x</sub> – Environmental Criteria. Contingent upon incorporating the additions and edits noted above, Committee members voiced no objections, and the CASAC approved the draft letter.

### Summary and Next Steps

Dr. Henderson thanked the members of the Committee for their participation and asked them to provide any written recommended minor changes to the letter to both CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel Chair Ted Russell and Panel DFO Kyndall Barry by no later than close of business the following Wednesday, May 7. Mr. Butterfield also thanked everyone on the conference call for their participation, and the DFO adjourned the meeting at approximately 11:06 a.m.

Respectfully Submitted:

/s/

*Fred A. Butterfield, III*

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Fred A. Butterfield, III  
CASAC DFO

Certified as True:

/s/

*Rogene F. Henderson, Ph.D.*

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Rogene F. Henderson, Ph.D.  
CASAC Chair

Date: May 23, 2008

## Appendix A – Clean Air Scientific Advisory Committee Roster

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

#### CHAIR

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

#### MEMBERS

**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**, Professor Emeritus, Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC, Cambridge, England

**Dr. Donna Kenski**, Data Analysis Director, 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

#### 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))

## Appendix B – Meeting Agenda

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

#### Public Advisory Teleconference Meeting

Monday, May 5, 2008 – 10:00 a.m. to 1:00 p.m. Eastern Time

### Advisory Meeting to Review and Approve CASAC NO<sub>x</sub> & SO<sub>x</sub> Secondary NAAQS Review Panel's Draft Report from April 2008 Peer Review of EPA's 1<sup>st</sup> Draft *Integrated Science Assessment (ISA) for Oxides of Nitrogen and Sulfur – Environmental Criteria*

#### Meeting Agenda

10:00 a.m.	<b>Convene Teleconference; Call Attendance; Introductions and Administration</b>	Mr. Fred Butterfield, CASAC DFO
10:10 a.m.	<b>Purpose of Meeting</b>	Dr. Rogene Henderson, Chair
10:15 a.m.	<b>Overview of Draft Report from April 2008 Peer Review of EPA's 1<sup>st</sup> Draft ISA for Oxides of Nitrogen and Sulfur – Environmental Criteria</b>	Dr. Ted Russell, Chair, CASAC NO <sub>x</sub> & SO <sub>x</sub> Secondary NAAQS Review Panel
10:30 a.m.	<b>Public Comment Period</b>	Mr. Butterfield (Facilitator)
11:00 a.m.	<b>Members' Discussion and Deliberations</b>	CASAC Members
	<b><u>Discussion Topic (Sections of Draft Report)</u></b>	
	<ul style="list-style-type: none"> <li>• <i>Atmospheric Sciences and Ecological Exposures</i></li> <li>• <i>Acidification</i></li> <li>• <i>Nitrogen Enrichment</i></li> <li>• <i>Other Welfare Effects</i></li> <li>• <i>Conclusions</i></li> </ul>	
12:45 p.m.	<b>CASAC Approval of Draft Report</b>	Dr. Henderson
1:00 p.m.	<b>Adjourn Meeting</b>	Mr. Butterfield