

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

**Summary Meeting Minutes of the CASAC Oxides of Nitrogen (NO_x) Primary
NAAQS Review Panel Public Advisory Teleconference**

Wednesday, June 11, 2008 – 3:00 to 5:00 p.m. Eastern Time

SAB Staff Office, Washington DC

**Advisory Meeting to Review and Approve CASAC NO_x Primary NAAQS Review
Panel's Draft Reports from May 2008 Peer Reviews of: (1) EPA's 2nd Draft Inte-
grated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria; and (2)
EPA's 1st Draft Risk and Exposure Assessment (REA) to Support the Review of the
NO₂ Primary National Ambient Air Quality Standards (NAAQS)**

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

Agenda: See Meeting Agenda – Appendix B

Purpose: The purpose of this public teleconference meeting was for the CASAC NO_x Primary NAAQS Review Panel to review, and for the chartered CASAC to approve, the Panel's Draft Reports from its May 2008 Peer Reviews of: (1) EPA's 2nd Draft Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria; and (2) EPA's 1st Draft Risk and Exposure Assessment (REA) to Support the Review of the NO₂ Primary National Ambient Air Quality Standards (NAAQS)

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. Joshua Cohen Mr. Ed Avol Dr. John Balmes Dr. Terry Gordon Dr. Dale Hattis Dr. Patrick Kinney Dr. Timothy Larson Dr. Kent Pinkerton Dr. Richard Schlesinger Dr. Elizabeth A. (Lianne) Sheppard

Panel Members: Dr. Frank Speizer
Dr. George Thurston

EPA SAB Staff: Mr. Fred Butterfield, CASAC Designated Federal Officer (DFO)
Dr. Angela Nugent, CASAC NOx Primary NAAQS Review Panel DFO

Other EPA Staff: Dr. Jeff Arnold, ORD, NCEA-RTP
Dr. Stephen Graham, OAR, OAQPS
Dr. Scott Jenkins, OAR, OAQPS
Dr. Jee Young Kim, ORD, NCEA-RTP
Dr. Ellen Kirrane, ORD, NCEA-RTP
Dr. Dennis Kotchmar, ORD, NCEA-RTP
Dr. John Langstaff, OAR, OAQPS
Dr. Thomas Long, ORD, NCEA-RTP
Dr. Thomas Luben, ORD, NCEA-RTP
Ms. Connie Meacham, ORD, NCEA-RTP
Dr. Qingyu Meng, ORD, NCEA-RTP
Mr. Harvey Richmond, OAR, OAQPS
Dr. Mary Ross, ORD, NCEA-RTP
Ms. Debra Walsh, 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 NO_x Primary NAAQS 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 NO_x Primary NAAQS Review Panel Chair, welcomed Panel members and briefly stated the purpose of the meeting (see above).

Public Comment Period

(There were no public commenters during this teleconference.)

Summary of the CASAC NO_x Primary NAAQS Review Panel's Discussion Concerning EPA's 2nd Draft ISA for Oxides of Nitrogen – Health Criteria

CASAC NO_x Primary NAAQS Review Panel members briefly discussed the Agency's 2nd Draft ISA for Oxides of Nitrogen – Health Criteria. One Panel member noted that carbon particles that adsorb NO₂ will be covered under EPA's forthcoming review of the NAAQS for particulate matter (PM). Therefore, it was recommended that the phrase, "may occur in the atmosphere," be deleted from page 3, line 39 of the draft report.

In addition, NO_x Primary NAAQS Panel members noted the "intersection" between controlled-human-exposure data and that obtained from epidemiological studies. One member also noted the multi-pollutant interactions, and associate effects, between NO_x and PM. After much discussion, Panel members also recommended to end the sentence found on page 3, lines 37–40 of the draft report after the words, "during inhalation."

Dr. Henderson asked if there were any objections from members of the statutory CASAC to approving this draft letter to the Administrator pursuant to the NO_x & SO_x Secondary NAAQS Review Panel's May 2008 peer review of EPA's 2nd Draft ISA for Oxides of Nitrogen – Health Criteria. Contingent upon incorporating the minor edits noted above, Committee members voiced no objections, and the CASAC approved the draft letter at 3:52 PM.

Summary of the CASAC NO_x Primary NAAQS Review Panel's Discussion Concerning EPA's 1st Draft Risk and Exposure Assessment (REA) to Support the Review of the NO₂ Primary NAAQS

NO_x Primary NAAQS Panel members then discussed EPA's 1st Draft REA to Support the Review of the NO₂ Primary NAAQS. One member commented that the *exposure* assessment portion of this document was "not helpful," adding that a true exposure assessment cannot be accomplished — is in fact misleading — due to a large amount of spatial heterogeneity, coupled with short averaging times, such that the data are inadequate. She further noted that only a *risk* assessment can be done. Following a brief discussion, Panel members decided to add the following clause at the end of the paragraph ending on page 3, line 2: "[see individual comments of Dr. Elizabeth A (Lianne) Sheppard]."

Another Panel member requested that the parenthetical phrase "(1-hour or 24-hour)" found in the first sentence of the penultimate paragraph of the report (page 6, line 20) be changed to read, "(less than or equal to 24-hour)." NO_x Primary NAAQS Panel members agreed, and also recommended that the corresponding change be made to the second paragraph of the letter (found on page 1, line 35).

Following additional, brief discussions, Dr. Henderson asked if there were any objections from members of the chartered CASAC to approving this draft letter to the Administrator pursuant to the NOx & SOx Secondary NAAQS Review Panel's May 2008 peer review of EPA's 1st Draft REA to Support the Review of the NO₂ Primary NAAQS. Contingent upon incorporating the minor edits noted above, Committee members voiced no objections, and the CASAC approved the draft letter at 4:11 PM.

Summary and Next Steps

Dr. Henderson thanked the members of the NO_x Primary NAAQS Review Panel for their participation in today's teleconference.

The DFO also thanked Panel members and Agency staff, and adjourned the meeting at approximately 4:15 p.m. on June 11, 2008.

Respectfully Submitted:

Certified as True:

/s/

/s/

Fred A. Butterfield, III

Rogene F. Henderson, Ph.D.

Fred A. Butterfield, III
CASAC DFO

Rogene F. Henderson, Ph.D.
CASAC Chair

Date: July 7, 2008

Appendix A – Roster of the CASAC NO_x Primary NAAQS Review Panel

U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC) CASAC Oxides of Nitrogen (NO_x) Primary NAAQS Lead Review Panel

CHAIR

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

CASAC MEMBERS

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

Dr. James Crapo, Professor of Medicine, Department of Medicine, National Jewish Medical and Research Center, Denver, CO

Dr. Douglas Crawford-Brown, Professor and Director, Department of Environmental Sciences and Engineering, Carolina Environmental Program, 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, Professor, Department of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA

Dr. Jonathan M. Samet, Professor and Chair of the Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD

CONSULTANTS

Dr. Ed Avol, Professor, Preventive Medicine, Keck School of Medicine, University of Southern California, Los Angeles, CA

Dr. John R. Balmes, Professor, Department of Medicine, Division of Occupational and Environmental Medicine, University of California, San Francisco, CA

Dr. Terry Gordon, Professor, Environmental Medicine, NYU School of Medicine, Tuxedo, NY

Dr. Dale Hattis, Research Professor, Center for Technology, Environment, and Development, George Perkins Marsh Institute, Clark University, Worcester, MA

Dr. Patrick Kinney, Associate Professor, Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY

Dr. Steven Kleeberger, Professor, Lab Chief, Laboratory of Respiratory Biology, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC

Dr. Timothy V. Larson, Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA

Dr. Kent Pinkerton, Professor, Regents of the University of California, Center for Health and the Environment, University of California, Davis, CA

Dr. Edward Postlethwait, Professor and Chair, Department of Environmental Health Sciences, School of Public Health, University of Alabama at Birmingham, Birmingham, AL

Dr. Richard Schlesinger, Associate Dean, Department of Biology, Dyson College, Pace University, New York, NY

Dr. Christian Seigneur, Vice President, Atmospheric & Environmental Research, Inc., San Ramon, CA

Dr. Elizabeth A. (Lianne) Sheppard, Research Professor, Biostatistics and Environmental & Occupational Health Sciences, Public Health and Community Medicine, University of Washington, Seattle, WA

Dr. Frank Speizer, Edward Kass Professor of Medicine, Channing Laboratory, Harvard Medical School, Boston, MA

Dr. George Thurston, Associate Professor, Environmental Medicine, NYU School of Medicine, New York University, Tuxedo, NY

Dr. James Ultman, Professor, Chemical Engineering, Bioengineering Program, Pennsylvania State University, University Park, PA

Dr. Ronald Wyzga, Technical Executive, Air Quality Health and Risk, Electric Power Research Institute, Palo Alto, CA

SCIENCE ADVISORY BOARD STAFF

Dr. Angela Nugent, Designated Federal Officer, 1200 Pennsylvania Avenue, NW 1400F, Washington, DC, Phone: 202-343-9981, Fax: 202-233-0643, (nugent.angela@epa.gov)

Appendix B – Meeting Agenda

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

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Meeting Agenda

3:00 p.m.	Convene teleconference; call attendance; introductions and administration	Mr. Fred Butterfield, CASAC DFO
3:10 p.m.	Purpose of meeting	Dr. Rogene Henderson, Chair
3:15 p.m.	Public comment period	Mr. Butterfield (Facilitator)
3:30 p.m.	Overview of draft report from May 2008 peer review of EPA's 2nd Draft ISA for NO_x – Health Criteria	Dr. Henderson
3:40 p.m.	Members' discussion and deliberations	CASAC and Panel members
4:10 p.m.	CASAC approval of draft report	Dr. Henderson, CASAC members
4:15 p.m.	Overview of draft report from May 2008 peer review of: 1st Draft REA for NO₂ Primary NAAQS	Dr. Henderson
4:25 p.m.	Members' discussion and deliberations	CASAC and Panel members
4:55 p.m.	CASAC approval of draft report	Dr. Henderson, CASAC members
5:00 p.m.	Adjourn meeting	Mr. Butterfield