



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR  
SCIENCE ADVISORY BOARD

April 7, 2008

EPA-CASAC-08-009

Honorable Stephen L. Johnson  
Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Subject: Clean Air Scientific Advisory Committee Recommendations Concerning the  
Final Rule for the National Ambient Air Quality Standards for Ozone

Dear Administrator Johnson:

The Clean Air Scientific Advisory Committee (CASAC or Committee), augmented by subject-matter-expert Panelists — collectively referred to as the CASAC Ozone Review Panel — met via a public advisory teleconference on March 28, 2008. The purpose of this conference call was to hold follow-on discussions concerning the Final Rule for the National Ambient Air Quality Standards (NAAQS) for ozone, which the Agency published on March 12, 2008. The Ozone Panel roster is attached as Appendix A.

In our most-recent letters to you on this subject — EPA-CASAC-07-001, dated October 24, 2006, and EPA-CASAC-07-002, dated March 26, 2007 — the CASAC unanimously recommended selection of an 8-hour average Ozone NAAQS within the range of 0.060 to 0.070 parts per million for the primary (human health-based) Ozone NAAQS. Moreover, with regard to the secondary (welfare-related) ozone standard, the Committee recommended an alternative secondary standard of cumulative form that is substantially different from the primary Ozone NAAQS in averaging time, level and form — specifically, the W126 index within the range of 7 to 15 ppm-hours, accumulated over at least the 12 “daylight” hours and the three maximum ozone months of the summer growing season.

The CASAC now wishes to convey, by means of this letter, its additional, unsolicited advice with regard to the primary and secondary Ozone NAAQS. *In doing so, the participating members of the CASAC Ozone Review Panel are unanimous in strongly urging you or your successor as EPA Administrator to ensure that these recommendations be considered during the next review cycle for the Ozone NAAQS that will begin next year.*

March 12, 2008 was the first time since 1997 that the primary standard for ozone was updated, and the CASAC commends you for taking a step in the right direction by lowering the primary eight-hour ozone standard from 0.08 parts per million to 0.075 ppm. The Committee is also pleased that the Agency has abandoned the artificial use of only two decimal places for the standard, as reported in ppm. As noted in the CASAC's previous letters to you on this subject, this practice has allowed the rounding-down of ozone concentrations as high as 0.084 ppm to meet the previous standard of 0.08 ppm.

*Nevertheless, the members of the CASAC Ozone Review Panel do not endorse the new primary ozone standard as being sufficiently protective of public health.* The CASAC — as the Agency's statutorily-established science advisory committee for advising you on the national ambient air quality standards — *unanimously recommended* decreasing the primary standard to within the range of 0.060–0.070 ppm. It is the Committee's consensus scientific opinion that your decision to set the primary ozone standard above this range fails to satisfy the explicit stipulations of the Clean Air Act that you ensure an adequate margin of safety for all individuals, including sensitive populations.

As you are well aware, numerous medical organizations and public health groups have also expressed their support of these CASAC recommendations. We sincerely hope that, in light of these scientific judgments and the supporting scientific evidence, you or your successor will select a more health-protective primary ozone standard during the upcoming review cycle.

The CASAC was also greatly disappointed that you failed to change the form of the secondary standard to make it different from the primary standard. As stated in the preamble to the Final Rule, even in the previous 1996 ozone review, "there was general agreement between the EPA staff, CASAC, and the Administrator, . . . that a cumulative, seasonal form was more biologically relevant than the previous 1-hour and new 8-hour average forms (61 FR 65716)" for the secondary standard. *Therefore, in both the previous review and in this review, the Agency staff and its advisors agreed that a change in the form of the secondary standard was scientifically well-justified.*

The CASAC was pleased to see that the EPA Deputy Administrator clearly articulated a robust scientific defense of this position when he responded to Ms. Susan Dudley of the Office of Management and Budget (OMB) in a memorandum dated March 7, 2008 that, "In light of the available information, EPA believes that ozone-related effects on vegetation are clearly linked to cumulative, seasonal exposures and are not appropriately characterized by the use of a short-term (8-hour) daily measure of ozone exposure." However, the Committee was disappointed and surprised that written correspondence from OMB to the Agency apparently thwarted the opportunity to take a major step forward in setting a separate secondary ozone standard that is different in form from the primary standard. The CASAC is particularly dismayed at the suggestion that setting a secondary NAAQS that is different from the primary NAAQS is somehow against the law — which is not only at odds with a plain-language reading of the Clean Air Act but is also contrary to the Agency's previous actions in setting a separate secondary standard for the initial NAAQS for both particulate matter and sulfur oxides, the latter of which (*i.e.*, for SO<sub>2</sub>) remains in effect.

Unfortunately, this scientifically-sound approach of using a cumulative exposure index for welfare effects was not adopted, and the default position of using the primary standard for the secondary standard was once again instituted. Keeping the same form for the secondary Ozone NAAQS as for the primary standard is not supported by current scientific knowledge indicating that different indicator variables are needed to protect vegetation compared to public health. The CASAC was further disappointed that a secondary standard of the W126 form was not considered from within the Committee's previously-recommended range of 7 to 15 ppm-hours. *The CASAC sincerely hopes that, in the next round of Ozone NAAQS review, the Agency will be able to support and establish a reasonable and scientifically-defensible cumulative form for the secondary standard.*

We recognize that it will be difficult to bring the country into compliance with lower primary and secondary ozone standards. However, the fact that it is difficult does not mean that it is not achievable. The substantial progress made to date in lowering ambient ozone levels testifies to this. The CASAC believes that, in the future, we as a nation can devise effective and efficient ways to decrease ambient ozone concentrations to a sufficiently health- and welfare-protective level. However, in order to support this vital objective, EPA's recent record of not adequately funding ozone research must end. The CASAC strongly supports the provision of additional funds to address the research needs that Agency staff have identified as being necessary for informing the process of setting both the primary and secondary ozone standards.

As always, the members of the CASAC wish the Agency well in our crucial — and mutual — efforts to protect both human health and the environment.

Sincerely,

*/Signed/*

Dr. Rogene F. Henderson, Chair  
Clean Air Scientific Advisory Committee

Attachment: Appendix A

## NOTICE

This report has been written as part of the activities of the U.S. Environmental Protection Agency's (EPA) Clean Air Scientific Advisory Committee (CASAC), a Federal advisory committee administratively-located under the EPA Science Advisory Board (SAB) Staff Office that is chartered to provide extramural scientific information and advice to the Administrator and other officials of the EPA. The CASAC is structured to provide balanced, expert assessment of scientific matters related to issue and problems facing the Agency. This report has not been reviewed for approval by the Agency and, hence, the contents of this report do not necessarily represent the views and policies of the EPA, nor of other agencies in the Executive Branch of the Federal government, nor does mention of trade names or commercial products constitute a recommendation for use. CASAC reports are posted on the SAB Web site at: <http://www.epa.gov/casac>.

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

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### U.S. Environmental Protection Agency Science Advisory Board (SAB) Staff Office Clean Air Scientific Advisory Committee (CASAC) CASAC Ozone 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**,<sup>§</sup> 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**,<sup>†</sup> Director of Data Analysis, Lake Michigan Air Directors Consortium (LADCO), Rosemont, IL

**Dr. Armistead (Ted) Russell**,<sup>§</sup> 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.]**,<sup>†</sup> Professor and Chairman, Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD

#### PANEL MEMBERS

**Dr. John Balmes**, Professor, Department of Medicine, University of California San Francisco, University of California – San Francisco, San Francisco, California

**Dr. William (Jim) Gauderman**, Professor, Department of Preventive Medicine, School of Medicine, University of Southern California, Los Angeles, CA

**Dr. Paul J. Hanson**, Senior Research and Development Scientist, Environmental Sciences Division, Oak Ridge National Laboratory (ORNL), Oak Ridge, TN

**Dr. Jack Harkema**,\* Professor, Department of Pathobiology, College of Veterinary Medicine, Michigan State University, East Lansing, MI

**Dr. Philip Hopke**, Bayard D. Clarkson Distinguished Professor, Department of Chemical Engineering, Clarkson University, Potsdam, NY

**Dr. Michael T. Kleinman**, Professor, Department of Community & Environmental Medicine, University of California – Irvine, Irvine, CA

**Dr. Allan Legge**, President, Biosphere Solutions, Calgary, Alberta, Canada

**Dr. Morton Lippmann**, Professor, Nelson Institute of Environmental Medicine, New York University School of Medicine, Tuxedo, NY

**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. Charles Plopper**, Professor, Department of Anatomy, Physiology and Cell Biology, School of Veterinary Medicine, University of California – Davis, Davis, California

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

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

**Dr. Sverre Vedal**, Professor of Medicine, Department of Environmental and Occupational Health Sciences, School of Public Health and Community Medicine, University of Washington, Seattle, WA

**Dr. James (Jim) Zidek**, Professor, Statistics, Science, University of British Columbia, Vancouver, BC, Canada

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

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

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<sup>§</sup>Dr. Crawford-Brown was appointed to the Clean Air Scientific Advisory Committee in October 2006; Dr. Russell was a member of the CASAC Ozone Review Panel and was appointed to the Clean Air Scientific Advisory Committee in October 2006.

<sup>†</sup>Dr. Kenski and Dr. Samet were appointed to the Clean Air Scientific Advisory Committee in October 2007.

\*Dr. Harkema did not participate in this current CASAC Ozone Review Panel activity.