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Preface

In 1971, the U.S. Environmental Protection Agency (EPA) promulgated National Ambient Air Quality Standards (NAAQS) to protect the public health and welfare from adverse effects of photochemical oxidants. In 1979, the chemical designation of the standards was changed from photochemical oxidants to ozone (O₃). This document focuses primarily on the scientific air quality criteria for O₃ and, to a lesser extent, on those for other photochemical oxidants such as hydrogen peroxide and the peroxyacyl nitrates.

The EPA promulgates the NAAQS on the basis of scientific information contained in air quality criteria issued under Section 108 of the Clean Air Act. The previous O₃ criteria document, *Air Quality Criteria for Ozone and Other Photochemical Oxidants*, was released in August 1986 and a supplement, *Summary of Selected New Information on Effects of Ozone on Health and Vegetation*, was released in January 1992. These documents were the basis for a March 1993 decision by EPA that revision of the existing 1-h NAAQS for O₃ was not appropriate at that time. That decision, however, did not take into account some of the newer scientific data that became available after completion of the 1986 criteria document. The purpose of this revised air quality criteria document for O₃ and related photochemical oxidants is to critically evaluate and assess the latest scientific data associated with exposure to the concentrations of these pollutants found in ambient air. Emphasis is placed on the presentation of health and environmental effects data; however, other scientific data are presented and evaluated in order to provide a better understanding of the nature, sources, distribution, measurement, and concentrations of O₃ and related photochemical oxidants and their precursors in the environment. Although the document is not intended to be an exhaustive literature review, it is intended to cover all pertinent literature available through 1995.

This document was prepared and peer reviewed by experts from various state and Federal governmental offices, academia, and private industry and reviewed in several public meetings by the Clean Air Scientific Advisory Committee. The National Center for Environmental Assessment (formerly the Environmental Criteria and Assessment Office) of EPA's Office of Research and Development acknowledges with appreciation the contributions provided by these authors and reviewers as well as the diligence of its staff and contractors in the preparation of this document at the request of the Office of Air Quality Planning and Standards.

***Air Quality Criteria for Ozone
and Related Photochemical Oxidants***

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Authors, Contributors, and Reviewers

Chapter 6. Toxicological Effects of Ozone and Related Photochemical Oxidants

Principal Authors

Dr. David J.P. Bassett—Department of Occupational and Environmental Health, College of Pharmacy and Allied Health Professions, Shapero Hall, Wayne State University, Detroit, MI 48202

Dr. Deepak K. Bhalla—Department of Community and Environmental Medicine, University of California, Irvine, CA 92717

Dr. Judith A. Graham—National Exposure Research Laboratory (MD-75), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. George J. Jakab—Department of Environmental Health Sciences, The Johns Hopkins University, School of Hygiene and Public Health, 615 N. Wolfe Street, Baltimore, MD 21209

Dr. Joseph R. Landolph—Department of Microbiology, USC Comprehensive Cancer Center, USC School of Medicine, Norris Cancer Hospital and Research Institute, 1441 Eastlake Avenue, Los Angeles, CA 90033

Dr. Richard B. Schlesinger—Institute of Environmental Medicine, New York University Medical Center, Long Meadow Road, Tuxedo, NY 10987

Dr. Jeffrey S. Tepper—Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080

Dr. Walter S. Tyler—Department of Anatomy, School of Veterinary Medicine, University of California, Davis, CA 95616

Contributors and Reviewers

Dr. Gary A. Boorman—National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, NC 27709

Dr. Daniel L. Costa—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Authors, Contributors, and Reviewers (cont'd)

Dr. Max Costa—Department of Environmental Medicine, New York University Medical Center, 550 First Avenue, New York, NY 10016

Dr. Donald L. Dungworth—Department of Veterinary Pathology, School of Veterinary Medicine, University of California, Davis, CA 95616

Dr. Ian Gilmour—Center for Environmental Medicine and Lung Biology, U.S. Environmental Protection Agency (MD-92), Research Triangle Park, NC 27711

Dr. Kenneth B. Gross—Biomedical Science Department, General Motors Research Laboratory, Warren, MI 48090

Dr. Gary E. Hatch—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Rogene F. Henderson—Inhalation Toxicology Research Institute, Lovelace Biomedical and Environmental Research Institute, P.O. Box 5890, Albuquerque, NM 87185

Dr. Dallas M. Hyde—Department of Anatomy, School of Veterinary Medicine, University of California, Davis, CA 95616

Dr. Jerald A. Last—California Primate Research Center, University of California, Davis, CA 95616

Dr. Daniel B. Menzel—Department of Community and Environmental Medicine, College of Medicine, University of California, Irvine, CA 92715

Dr. Robert R. Mercer—Department of Medicine, Division of Allergy and Respiratory Disease, P.O. Box 3177, Duke University Medical Center, Durham, NC 27710

Dr. Frederick J. Miller—Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, NC 27709

Dr. Kathleen M. Nauss—Health Effects Institute, 141 Portland St., Suite 7300, Cambridge, MA 02139

Dr. Steven C. Nesnow—National Health and Environmental Effects Research Laboratory (MD-68), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Robert F. Phalen—Department of Community and Environmental Medicine, University of California, Irvine, CA 92717

Authors, Contributors, and Reviewers (cont'd)

Dr. Charles G. Plopper—Department of Anatomy, School of Veterinary Medicine, University of California, Davis, CA 95616

Dr. Edward M. Postlethwait—Pulmonary Division H-76, Department of Internal Medicine, University of Texas Medical School, Galveston, TX 77550

Mr. Mark E. Raizenne—Health and Welfare Canada, Environmental Health Center, Tunney's Pasture, Ottawa, Ontario K1A 0L2, CANADA

Dr. Edward S. Schelegle—Department of Human Physiology, School of Medicine, Building 1-A, Room 4140, University of California, Davis, CA 95616

Dr. MaryJane Selgrade—National Health and Environmental Effects Research Laboratory (MD-92), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. David Warshawsky—Kettering Laboratories, University of Cincinnati, School of Medicine, Department of Environmental Health, 3223 Eden Avenue, Cincinnati, OH 45267

Dr. M. Jean Wiester—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jeannette Wiltse—National Center for Environmental Assessment (8601), U.S. Environmental Protection Agency, 401 M. Street, S.E., Washington, DC 20460

Dr. Hanspeter R. Witschi—Toxic Substances Research and Teaching Program, University of California, Davis, CA 95616

Chapter 7. Human Health Effects of Ozone and Related Photochemical Oxidants

Principal Authors

Dr. Robert M. Aris—Department of Medicine, The University of North Carolina, 724 Burnette-Womack Bldg., Chapel Hill, NC 27599

Dr. John R. Balmes—Center for Occupational and Environmental Health, San Francisco General Hospital, 1001 Potrero Avenue, Bldg. 30, 5th Floor, San Francisco, CA 94110

Dr. Robert B. Devlin—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Authors, Contributors, and Reviewers (cont'd)

Dr. Deborah M. Drechsler-Parks—Environmental Stress Laboratory, Neuroscience Research Institute, University of California, Santa Barbara, CA 93106

Dr. Lawrence J. Folinsbee—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Henry Gong, Jr.—Rancho Los Amigos Medical Center, 7601 East Imperial Highway, Downey, CA 90242

Dr. Patrick L. Kinney—School of Public Health, Columbia University, 60 Haven Avenue, New York, NY 10032

Dr. Edward S. Schelegle—Department of Human Physiology, School of Medicine, Building 1-A, Room 4140, University of California, Davis, CA 95616

Dr. Ira B. Tager—School of Public Health, 140 Earl Warren Hall, University of California, Berkeley, CA 94720

Dr. George D. Thurston—Institute of Environmental Medicine, New York University Medical Center, Long Meadow Road, Tuxedo, NY 10987

Contributors and Reviewers

Dr. William C. Adams—Department of Physical Education, University of California, Davis, CA 95616

Dr. Rebecca Bascom—The University of Maryland School of Medicine, 10 S. Pine St., MSTF-800, Baltimore, MD 21201

Dr. David V. Bates—Department of Health Care and Epidemiology, University of British Columbia, 5804 Fairview Ave., Vancouver, British Columbia V6T1Z3, CANADA

Dr. William S. Beckett—Yale School of Medicine, 333 Cedar St., New Haven, CT 06510

Dr. Philip A. Bromberg—Department of Medicine, The University of North Carolina, 724 Burnett-Womack Bldg., 229H, Chapel Hill, NC 27599

Dr. Douglas Dockery—Harvard School of Public Health, Environmental Epidemiology, 665 Huntington Avenue, Boston, MA 02115

Dr. William Eschenbacher—Methodist Hospital, 6565 Fannin, M.S., F980, Houston, TX 77030

Authors, Contributors, and Reviewers (cont'd)

Dr. Mark Frampton—Pulmonary Disease Unit, Box 692, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642

Dr. Judith A. Graham—National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Milan J. Hazucha—Department of Medicine, Center for Environmental Medicine and Lung Biology, The University of North Carolina, Trailer #4, Medical Bldg. C 224H, Chapel Hill, NC 27599

Dr. Steven M. Horvath—Environmental Stress Laboratory, Neuroscience Research Institute, University of California, Santa Barbara, CA 93106

Dr. Howard R. Kehrl—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jane Q. Koenig—Department of Environmental Health, School of Public Health and Community Medicine, University of Washington, SC-34, Seattle, WA 98195

Dr. Hillel S. Koren—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Debra L. Laskin—Department of Pharmacology and Toxicology, College of Pharmacy, Rutgers University, Piscataway, NY 08855

Mr. William S. Linn—Rancho Los Amigos Medical Center, 51 Medical Science Building, 7601 East Imperial Highway, Downey, CA 90242

Dr. Fred Lipfert—23 Carll Ct., Northport, NY 11768

Dr. William F. McDonnell—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Mark E. Raizenne—Health and Welfare Canada, Environmental Health Center, Tunney's Pasture, Ottawa, Ontario K1A 0L2, CANADA

Dr. Jonathan M. Samet—Department of Epidemiology, School of Hygiene and Public Health, Johns Hopkins University, 615 N. Wolfe St., Baltimore, MD 21205

Dr. Joel Schwartz—Environmental Epidemiology Program, Harvard School of Public Health, 665 Huntington Avenue, Boston, MA 02115

Authors, Contributors, and Reviewers (cont'd)

Dr. Elston Seal—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Dalia M. Spektor—2242 20th Street (#1), Santa Monica, CA 90405

Chapter 8. Extrapolation of Animal Toxicological Data to Humans

Principal Authors

Dr. Daniel L. Costa—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Timothy R. Gerrity—Medical Research Services, Department of Veterans Affairs, 810 Vermont Ave., N.W., Washington, DC 20420

Dr. John H. Overton—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Reviewers

Dr. Daniel B. Menzel—Department of Community and Environmental Medicine, College of Medicine, University of California, Irvine, CA 92715

Dr. Robert R. Mercer—Department of Medicine, Division of Allergy and Respiratory Disease, P.O. Box 3177, Duke University Medical Center, Durham, NC 27710

Dr. Frederick J. Miller—Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, NC 27709

Dr. Kathleen M. Nauss—Health Effects Institute, 141 Portland St., Suite 7300, Cambridge, MA 02139

Dr. Edward M. Postlethwait—Pulmonary Division H-76, Department of Internal Medicine, University of Texas Medical School, Galveston, TX 77550

Mr. Mark E. Raizenne—Health and Welfare Canada, Environmental Health Center, Tunney's Pasture, Ottawa, Ontario K1A 0L2, CANADA

Authors, Contributors, and Reviewers (cont'd)

Dr. James S. Ultman—Department of Chemical Engineering, Pennsylvania State University, University Park, PA 16802

Dr. M. Jean Wiester—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Chapter 9. Integrative Summary of Ozone Health Effects

Principal Authors

Dr. Daniel L. Costa—National Health and Environmental Effects Research Laboratory (MD-82), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Robert B. Devlin—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Lawrence J. Folinsbee—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Timothy R. Gerrity—Medical Research Services, Department of Veterans Affairs, 810 Vermont Ave., N.W., Washington, DC 20420

Dr. Judith A. Graham—National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. William F. McDonnell—National Health and Environmental Effects Research Laboratory (MD-58), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. James A. Raub—National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Contributors and Reviewers

Dr. Frederick J. Miller—Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, NC 27709

Dr. Edward S. Schelegle—Department of Human Physiology, School of Medicine, Building 1-A, Room 4140, University of California, Davis, CA 95616

Authors, Contributors, and Reviewers (cont'd)

Dr. Walter S. Tyler—Department of Anatomy, School of Veterinary Medicine, University of California, Davis, CA 95616

Dr. Jeannette Wiltse—National Center for Environmental Assessment, U.S. Environmental Protection Agency (8601), 401 M. Street, S.E., Washington, DC 20460

**U.S. Environmental Protection Agency
Science Advisory Board
Clean Air Scientific Advisory Committee**

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Chairman

Dr. George T. Wolff—General Motors Corporation, Environmental and Energy Staff,
General Motors Bldg., 12th Floor, 3044 West Grand Blvd., Detroit, MI 48202

Members

Dr. Stephen Ayres—Office of International Health Programs, Virginia Commonwealth
University, Medical College of Virginia, Box 980565, Richmond, VA 23298

Dr. Jay S. Jacobson—Boyce Thompson Institute, Tower Road, Cornell University, Ithaca, NY
14853

Dr. Joseph Mauderly—Inhalation Toxicology Research Institute, Lovelace Biomedical and
Environmental Research Institute, P.O. Box 5890, Albuquerque, NM 87185

Dr. Paulette Middleton—Science & Policy Associates, Inc., Western Office, Suite 140,
3445 Penrose Place, Boulder, CO 80301

Dr. James H. Price, Jr.—Research and Technology Section, Texas Natural Resources
Conservation Commission, P.O. Box 13087, Austin, TX 78711

Invited Scientific Advisory Board Members

Dr. Morton Lippmann—Institute of Environmental Medicine, New York University Medical
Center, Long Meadow Road, Tuxedo, NY 10987

Dr. Roger O. McClellan—Chemical Industry Institute of Toxicology, P.O. Box 12137,
Research Triangle Park, NC 27711

Consultants

Dr. Stephen D. Colome—Integrated Environmental Services, University Tower, Suite 280,
4199 Campus Drive, Irvine, CA 92715

**U.S. Environmental Protection Agency
Science Advisory Board
Clean Air Scientific Advisory Committee
(cont'd)**

Dr. A. Myrick Freeman—Department of Economics, Bowdoin College, Brunswick, ME 04011

Dr. Allan Legge—Biosphere Solutions, 1601 11th Avenue, NW, Calgary, Alberta T2N 1H1,
CANADA

Dr. William Manning—Department of Plant Pathology, University of Massachusetts, Amherst,
MA 01003

Dr. D. Warner North—Decision Focus, Inc., 650 Castro Street, Suite 300, Mountain View,
CA 94041

Dr. Frank E. Speizer—Harvard Medical School, Channing Lab, 180 Longwood Avenue,
Boston, MA 02115

Dr. George E. Taylor—Department of Environmental and Resource Sciences, 130 Fleischmann
Agriculture Bldg. 199, University of Nevada, Reno, NV 89557

Dr. Mark J. Utell—Pulmonary Disease Unit, Box 692, University of Rochester Medical
Center, 601 Elmwood Avenue, Rochester, NY 14642

Designated Federal Official

Mr. Randall C. Bond—Science Advisory Board (1400), U.S. Environmental Protection
Agency, 401 M Street, SW, Washington, DC 20460

Staff Assistant

Ms. Lori Anne Gross—Science Advisory Board (1400), U.S. Environmental Protection
Agency, 401 M Street, SW, Washington, DC 20460

**U.S. Environmental Protection Agency
Project Team for Development of Air Quality Criteria
for Ozone and Related Photochemical Oxidants**

Scientific Staff

Mr. James A. Raub—Health Scientist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. A. Paul Altshuller—Physical Scientist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. William G. Ewald—Health Scientist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. J.H.B. Garner—Ecologist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Judith A. Graham—Associate Director, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Ms. Ellie R. Speh—Secretary, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Ms. Beverly E. Tilton—Physical Scientist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Technical Support Staff

Mr. Douglas B. Fennell—Technical Information Specialist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Allen G. Hoyt—Technical Editor and Graphic Artist, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Ms. Diane H. Ray—Technical Information Manager (Public Comments), National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

**U.S. Environmental Protection Agency
Project Team for Development of Air Quality Criteria
for Ozone and Related Photochemical Oxidants
(cont'd)**

Mr. Richard N. Wilson—Clerk, National Center for Environmental Assessment (MD-52), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Document Production Staff

Ms. Marianne Barrier—Graphic Artist, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Mr. John R. Barton—Document Production Coordinator, ManTech Environmental Technology,
Inc., P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Lynette D. Cradle—Word Processor, ManTech Environmental Technology, Inc., P.O. Box
12313, Research Triangle Park, NC 27709

Ms. Shelia H. Elliott—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Sandra K. Eltz—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Jorja R. Followill—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Sheila R. Lassiter—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Wendy B. Lloyd—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Carolyn T. Perry—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. Cheryl B. Thomas—Word Processor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Mr. Peter J. Winz—Technical Editor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

**U.S. Environmental Protection Agency
Project Team for Development of Air Quality Criteria
for Ozone and Related Photochemical Oxidants
(cont'd)**

Technical Reference Staff

Mr. John A. Bennett—Bibliographic Editor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709

Ms. S. Blythe Hatcher—Bibliographic Editor, Information Organizers, Inc., P.O. Box 14391,
Research Triangle Park, NC 27709

Ms. Susan L. McDonald—Bibliographic Editor, Information Organizers, Inc., P.O. Box 14391,
Research Triangle Park, NC 27709

Ms. Carol J. Rankin—Bibliographic Editor, Information Organizers, Inc., P.O. Box 14391,
Research Triangle Park, NC 27709

Ms. Deborah L. Staves—Bibliographic Editor, Information Organizers, Inc., P.O. Box 14391,
Research Triangle Park, NC 27709

Ms. Patricia R. Tierney—Bibliographic Editor, ManTech Environmental Technology, Inc.,
P.O. Box 12313, Research Triangle Park, NC 27709