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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 (O_3). This document focuses primarily on the scientific air quality criteria for O_3 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 O_3 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 O_3 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 O_3 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 O_3 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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List of Figures (cont'd)

Authors, Contributors, and Reviewers

Chapter 1. Executive Summary

Principal Authors

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

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

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

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

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

Chapter 2. Introduction

Principal Author

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

Chapter 3. Tropospheric Ozone and Its Precursors

Principal Authors

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

Dr. Roger Atkinson—Statewide Air Pollution Research Center, University of California, 900 Watkins Avenue, Riverside, CA 92521

Mr. Michael W. Holdren—Battelle, 505 King Avenue, Columbus, OH 43201

Dr. Thomas J. Kelly—Battelle, 505 King Avenue, Columbus, OH 43201-2693

Authors, Contributors, and Reviewers (cont'd)

Dr. Charles W. Lewis—National Exposure Research Laboratory (MD-47) U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Perry J. Samson—Department of Atmospheric, Oceanic, and Space Sciences, University of Michigan, 2455 Hayward Street, Ann Arbor, MI 48109

Dr. John H. Seinfeld—Division of Engineering and Applied Science, California Institute of Technology, 391 South Holliston Avenue, Pasadena, CA 91125

Dr. Joseph Sickles II—National Exposure Research Laboratory (MD-75), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

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

Dr. Halvor (Hal) Westberg—Department of Civil and Environmental Engineering, Washington State University, Pullman, WA 99164

Reviewers

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

Mr. Robert R. Arnts—National Exposure Research Laboratory (MD-84) U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Frank M. Black—National Exposure Research Laboratory (MD-46), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Joseph J. Bufalini—National Exposure Research Laboratory (MD-84), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Daewon Byun—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jason K. S. Ching—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Kenneth L. Demerjian—Atmospheric Sciences Research Center (SUNY-Albany), 100 Fuller Road, Albany NY 12205

Authors, Contributors, and Reviewers (cont'd)

Dr. Robin L. Dennis—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

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

Dr. Marcia C. Dodge—National Exposure Research Laboratory (MD-84), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Chris D. Geron—National Risk Management Laboratory (MD-62), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Michael W. Gery—Atmospheric Research Associates, 160 North Washington Street, Boston, MA 02114

Dr. James M. Godowitch—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jimmie W. Hodgeson—National Exposure Research Laboratory (MD-84), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Harvey E. Jeffries—Department of Environmental Sciences and Engineering, School of Public Health, CB #7400, University of North Carolina, Chapel Hill, North Carolina 27599-7400

Dr. Douglas R. Lawson—Energy and Environmental Engineering Center, Desert Research Institute, Reno, NV 89506

Dr. Charles W. Lewis—National Exposure Research Laboratory (MD-47), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. William A. Lonneman—National Exposure Research Laboratory (MD-84), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. William A. McClenny—National Exposure Research Laboratory (MD-44), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Frank F. McElroy—National Exposure Research Laboratory (MD-77), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Thomas B. McMullen—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Authors, Contributors, and Reviewers (cont'd)

Dr. Edwin L. Meyer—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. David C. Misenheimer—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. J. David Mobley—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Will Ollison—American Petroleum Institute, 1220 L Street NW, Washington, DC 20005

Dr. Kenneth Olszyna—Tennessee Valley Authority, CEB 2A, Muscle Shoals, AL 35660

Mr. Thomas E. Pierce—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Larry J. Purdue—National Exposure Research Laboratory (MD-56), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Kenneth A. Rehme—National Exposure Research Laboratory (MD-77), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Harold G. Richter—Private consultant, 8601 Little Creek Farm Road, Chapel Hill, NC 27516

Mr. Shawn J. Roselle—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Kenneth L. Schere—National Exposure Research Laboratory (MD-80), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jack H. Shreffler—National Exposure Research Laboratory (MD-75), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Joseph Sickles II—National Exposure Research Laboratory (MD-75), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Robert L. Seila—National Exposure Research Laboratory (MD-84), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

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

Authors, Contributors, and Reviewers (cont'd)

Dr. Fred Vukovich—Private consultant, 7820 Harps Mill Road, Raleigh, NC 27615

Mr. Richard A. Wayland—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Chapter 4. Environmental Concentrations, Patterns, and Exposure Estimates

Principal Authors

Dr. Allen S. Lefohn—A.S.L. & Associates, 111 Last Chance Gulch, Suite 4A, Helena, MT 59601

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

Reviewers

Dr. Thomas C. Curran—Office of Air Quality Planning and Standards (MD-12), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Mr. Gary F. Evans—National Exposure Research Laboratory (MD-56), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

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

Mr. Warren P. Freas—Office of Air Quality Planning and Standards (MD-14), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. Jon Heuss—General Motors Environmental and Energy Staff, 3044 West Grand Blvd., Detroit, MI 48202

Dr. Nelson Kelly—Environmental Sciences Department, General Motors Research and Development Center, Warren, MI 48090

Dr. Paul J. Lioy—Department of Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NY 08854

Mr. Thomas R. McCurdy— National Exposure Research Laboratory (MD-56), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Authors, Contributors, and Reviewers (cont'd)

Mr. Cornelius J. Nelson—National Exposure Research Laboratory (MD-56),
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

Dr. William Parkhurst—Tennessee Valley Authority, CEB 2A, Muscle Shoals, AL 35660

Mr. Harvey M. Richmond—Office of Air Quality Planning and Standards (MD-12),
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711

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

Ozone Review

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