UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 24 2015

OFFICE OF
POLICY

Dr. Peter S. Thorne
Chairman
Science Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Dear Dr. Thorne:

I want to thank you and the Board for the June 16, 2015, letter to Administrator Gina McCarthy providing the results of your consideration of the U.S. Environmental Protection Agency's planned actions listed in the Fall 2014 Unified (Regulatory) Agenda and Regulatory Plan and of the supporting science behind these actions. I am responding on the agency's behalf.

While the Science Advisory Board concluded that it would not undertake review of the science supporting any of the actions in the Fall 2014 Agenda, it did request (1) to be regularly informed about the substantive scientific issues that could arise in the subsequent regulatory process that follows the *Proposed Finding that Greenhouse Gas Emissions for Aircraft Cause of Contribute to Air Pollution that May Reasonably be Anticipated to Endanger Public Health and Welfare and Advanced Notice of Proposed Rulemaking* (2060-AS30); (2) to be briefed on the science underlying agency approaches to address greenhouse gas emissions and related climate change actions; and (3) that the agency consider guidance that addresses the validity of the use of existing or proposed modeling techniques at sites with varying conditions not previously encountered in site profiles when finalizing *Revisions to Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (40 CFR 192)* (2060-AP43).

With respect to the first request, should the agency finalize the proposed *Endangerment Finding*, we would be pleased to provide an update on substantive scientific issues which arise with any follow-on action. Regarding the request for a briefing on the science underlying agency approaches to address greenhouse gas emissions and related climate change actions, the agency was pleased in December 2013 to provide the SAB with a briefing on EPA's climate change related science activities. Also, as noted in the SAB letter, the proposed *Endangerment Finding* relies on information that has been well-reviewed. In fact, all of EPA's climate-related actions –including the proposed Endangerment Finding—rely on climate science from the major climate change scientific assessments, which have all been extensively peer-reviewed. Going forward, the agency has and will continue to provide the SAB with information on any additional science and associated peer review underlying agency climate-related actions as they are announced in the semi-annual Regulatory Agenda. We anticipate these future science review submissions would meet the SAB's need for updated information on the science underlying our climate-

related actions as new scientific information develops. Nevertheless, we would also be pleased to continue to work with the Committee and Science Advisory Board Staff Office to determine whether there is additional information relevant to our climate-related actions which may be available and of interest to the SAB.

With regard to the third request, the agency appreciates the guidance provided by the SAB Radiation Advisory Committee and used it in development of the proposed rule. As the SAB suggested, we will evaluate the need for appropriate guidance suggesting consideration of the unique site conditions of each facility when conducting modelling and any impacts these site conditions may have on the validity of the model used.

As always, we appreciate the Board's work in support of the EPA's scientific activities and look forward to working with you in the future.

Sincerely,

Joel Beauvais
Associate Administrator

cc: Christopher Zarba
Janet McCabe

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

June 16, 2015

EPA-SAB-15-009

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: Science Advisory Board (SAB) Consideration of EPA Planned Actions in the Fall 2014 Unified (Regulatory) Agenda and their Supporting Science

Dear Administrator McCarthy:

As part of its statutory duties, the Science Advisory Board (SAB) recently concluded discussions about possible review of the science supporting major EPA planned actions associated with the Fall 2014 Unified (Regulatory) Agenda and Regulatory Plan. The EPA Office of Policy provided notice of the release of this information on November 21, 2014. The SAB held a public teleconference on May 27, 2015, to discuss whether to review the science supporting any of the planned regulatory actions in that agenda in order to provide advice and comment on the adequacy of the science.

The SAB focused its attention on seven major actions identified by the EPA Office of Policy as being planned but not yet proposed as of the date the Agenda was published in the *Federal Register*. At the May 27, 2015, public teleconference, the SAB decided that it will not undertake review of the science supporting any actions in the Fall 2014 semi-annual regulatory agenda at this time.

The Board notes that one action, *Proposed Finding that Greenhouse Gas Emissions from Aircraft Cause or Contribute to Air Pollution that May Reasonably be Anticipated to Endanger Public Health and Welfare and Advanced Notice of Proposed Rulemaking* (2060-AS31), addresses a topic of high interest. The SAB recognizes that the action will be based on information that has been well-reviewed and that will be based on inference approaches for which there is precedent. However, the SAB anticipates that subsequent steps in the regulatory process will involve substantive scientific issues that may warrant SAB consideration. It asks the agency to regularly inform the SAB about the status of subsequent steps on this topic and also asks the EPA to provide it with briefings on the science underlying agency approaches to address greenhouse gas emissions and related climate change actions.

An additional action, the Proposed Rulemaking for 40 CFR Part 192: *Amendments to Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings* (2060-AP43) was included in this review and discussed at the May 27, 2015, teleconference meeting. This proposed action was previously considered in the Board's review of the Spring 2013 Regulatory Agenda and a disposition was deferred by the Board because information provided by the agency was insufficient to evaluate the scientific and technical basis at that time. The SAB's Radiation Advisory Committee (RAC) had reviewed the draft technical report supporting the proposed rulemaking and the agency briefly responded to the SAB's comments in 2012; however, limited information on how the agency addressed

those recommendations was available to the Board. From the additional information provided during this most recent review of EPA planned actions, the SAB found that the agency addressed the 2012 SAB recommendations and incorporated most of the recommendations into the proposed action. Yet, it was not clear if the current modeling techniques were adequate (e.g., validated science-based techniques that address the varying conditions at the site). Accordingly, the SAB finds that this action does not merit further SAB consideration. However, the Board recommends that the agency consider guidance in the final rule that addresses the validity of the use of existing or proposed modeling techniques at sites with varying physical and chemical conditions (input parameters) not previously encountered in site profiles.

The SAB appreciates the information provided by the EPA Office of Policy and the EPA program offices describing the planned actions, associated scientific questions, and agency plans for scientific analyses and peer review. The written information provided and the results of fact-finding discussions with EPA Staff are available on the SAB website.

On behalf of the SAB, I thank you for the opportunity to support EPA through consideration of the science supporting actions in the agency's regulatory agenda.

Sincerely,

Dr. Peter S. Thorne, Chair
Science Advisory Board

Enclosure
(1) Roster of SAB Members

NOTICE

This report has been written as part of the activities of the EPA Science Advisory Board (SAB), a public advisory group providing extramural scientific information and advice to the Administrator and other officials of the Environmental Protection Agency. The SAB is structured to provide balanced, expert assessment of scientific matters related to problems facing the agency. This report has not been reviewed for approval by the agency and, hence, the contents of this report do not represent the views and policies of the Environmental Protection Agency, nor of other agencies in the Executive Branch of the Federal government, nor does mention of trade names of commercial products constitute a recommendation for use. Reports of the SAB are posted on the EPA website at http://www.epa.gov/sab.

U.S. Environmental Protection Agency
Science Advisory Board
BOARD

CHAIR

Dr. Peter S. Thorne, Professor and Head, Department of Occupational & Environmental Health, University of Iowa, Iowa City, IA

MEMBERS

Dr. George Alexeeff, Director, Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, Oakland, CA

Dr. Joseph Arvai, Max McGraw Professor of Sustainable Enterprise, Director, Erb Institute, School of Natural Resources & Environment, University of Michigan, Ann Arbor, MI

Dr. Sylvie M. Brouder, Professor and Wickersham Chair of Excellence in Agricultural Research, Department of Agronomy, Purdue University, West Lafayette, IN

Dr. Thomas Burbacher, Professor, Department of Environmental and Occupational Health Sciences, School of Public Health, University of Washington, Seattle, WA

Dr. Ingrid Burke, Director and Wyoming Excellence Chair, Haub School and Ruckelshaus Institute of Environment and Natural Resources, University of Wyoming, Laramie, WY

Dr. George Daston, Victor Mills Society Research Fellow, Global Product Stewardship, The Procter & Gamble Company, Mason, OH

Dr. Costel Denson, Managing Member, Costech Technologies, LLC, Hockessin, DE

Dr. Michael Dourson, President, Toxicology Excellence for Risk Assessment, Cincinnati, OH

Dr. Joel Ducoste, Professor, Department of Civil, Construction, and Environmental Engineering, College of Engineering, North Carolina State University, Raleigh, NC

Dr. David A. Dzombak, Hamerschlag University Professor and Department Head, Department of Civil and Environmental Engineering, College of Engineering, Carnegie Mellon University, Pittsburgh, PA

Dr. Elaine M. Faustman, Professor and Director, Environmental and Occupational Health Sciences, University of Washington, Seattle, WA

Dr. R. William Field, Professor, Department of Occupational and Environmental Health, and Department of Epidemiology, College of Public Health, University of Iowa, Iowa City, IA

Dr. H. Christopher Frey, Distinguished University Professor, Department of Civil, Construction and Environmental Engineering, College of Engineering, North Carolina State University, Raleigh, NC

Dr. Steven Hamburg, Chief Scientist, Environmental Defense Fund, Boston, MA

Dr. Cynthia M. Harris, Director and Professor, Institute of Public Health, Florida A&M University, Tallahassee, FL

Dr. Robert J. Johnston, Director of the George Perkins Marsh Institute and Professor, Economics, Clark University, Worcester, MA

Dr. Kimberly L. Jones, Professor and Chair, Department of Civil and Environmental Engineering, Howard University, Washington, DC

Dr. Catherine Karr, Associate Professor - Pediatrics and Environmental and Occupational Health Sciences and Director - NW Pediatric Environmental Health Specialty Unit, University of Washington, Seattle, WA

Dr. Madhu Khanna, ACES Distinguished Professor in Environmental Economics, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, Urbana, IL

Dr. Nancy K. Kim, Independent Consultant, Independent Consultant, Albany, NY

Dr. Francine Laden, Mark and Catherine Winkler Associate Professor of Environmental Epidemiology, Harvard School of Public Health, and Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA

Dr. Lois Lehman-McKeeman, Distinguished Research Fellow, Discovery Toxicology, Bristol-Myers Squibb, Princeton, NJ

Dr. Cecil Lue-Hing, President, Cecil Lue-Hing & Assoc. Inc., Burr Ridge, IL

Dr. Elizabeth Matsui, Associate Professor, Pediatrics, School of Medicine, Johns Hopkins University, Baltimore, MD

Dr. Denise Mauzerall, Professor, Woodrow Wilson School of Public and International Affairs, and Department of Civil and Environmental Engineering, Princeton University, Princeton, NJ

Dr. Kristina D. Mena, Associate Professor, Epidemiology, Human Genetics, and Environmental Sciences, School of Public Health, University of Texas Health Science Center at Houston, El Paso, TX

Dr. Surabi Menon, Director of Research, ClimateWorks Foundation, San Francisco, CA

Dr. James R. Mihelcic, Professor, Civil and Environmental Engineering, University of South Florida, Tampa, FL

Dr. H. Keith Moo-Young, Chancellor, Office of Chancellor, Washington State University, Tri-Cities, Richland, WA

Dr. Eileen Murphy, Senior Director Corporate & Foundation Relations, Rutgers University Foundation, New Brunswick, NJ

Dr. James Opaluch, Professor and Chair, Department of Environmental and Natural Resource Economics, College of the Environment and Life Sciences, University of Rhode Island, Kingston, RI

Dr. Martin Philbert, Dean and Professor, Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor, MI

Mr. Richard L. Poirot, Air Quality Planning Chief, Air Quality and Climate Division, Vermont Department of Environmental Conservation, Montpelier, VT

Dr. Stephen Polasky, Fesler-Lampert Professor of Ecological/Environmental Economics, Department of Applied Economics, University of Minnesota, St. Paul, MN

Dr. David B. Richardson, Associate Professor, Department of Epidemiology, School of Public Health, University of North Carolina, Chapel Hill, NC

Dr. Amanda D. Rodewald, Director of Conservation Science, Cornell Lab of Ornithology and Associate Professor, Department of Natural Resources, Cornell University, Ithaca, NY

Dr. William Schlesinger, President Emeritus, Cary Institute of Ecosystem Studies, Millbrook, NY

Dr. Gina Solomon, Deputy Secretary for Science and Health, Office of the Secretary, California Environmental Protection Agency, Sacramento, CA

Dr. Daniel O. Stram, Professor, Department of Preventive Medicine, Division of Biostatistics, University of Southern California, Los Angeles, CA

Dr. Paige Tolbert, Professor and Chair, Department of Environmental Health, Rollins School of Public Health, Emory University, Atlanta, GA

Dr. Jeanne VanBriesen, Professor, Department of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA

Dr. John Vena, Professor and Founding Chair, Department of Public Health Sciences, Medical University of South Carolina, Charleston, SC

Dr. Elke Weber, Jerome A. Chazen Professor of International Business, Columbia Business School, New York, NY

Dr. Charles Werth, Professor and Bettie Margaret Smith Chair in Environmental Health Engineering, Department of Civil, Architectural and Environmental Engineering, Cockrell School of Engineering, University of Texas at Austin, Austin, TX

Dr. Peter J. Wilcoxen, Associate Professor, Economics and Public Administration, The Maxwell School, Syracuse University, Syracuse, NY

Dr. Dawn J. Wright, Chief Scientist, Environmental Systems Research Institute (Esri), Redlands, CA

SCIENCE ADVISORY BOARD STAFF

Mr. Thomas Carpenter, Designated Federal Officer, U.S. Environmental Protection Agency, Science Advisory Board, 1200 Pennsylvania Avenue, NW, Washington, DC