

**U.S. Environmental Protection Agency
Science Advisory Board
Ecological Processes and Effects Committee Augmented for Ballast Water Advisory**

Public Teleconference Call
March 17, 2011
Noon to 3:00 p.m. Eastern Time

Minutes of the Meeting

Attendees:

Ecological Processes and Effects Committee (EPEC) Augmented for Ballast Water

Advisory: Judy Meyer, Fred Benfield, JoAnn Burkholder, Allen Burton, Peter Chapman, William Clements, Andrew Cohen, Loveday Conquest, Robert Diaz, Fred Dobbs, Lisa Drake, Charles Haas, Thomas W. La Point, Wayne Landis, David Lodge, Kevin Reynolds, James Sanders, Mario Tamburri (for full roster, see Attachment A).

SAB Staff Office: Iris Goodman (Designated Federal Officer)

Other Attendees: Names of those who requested the teleconference call-in number are provided in Attachment B.

Purpose: to discuss the draft compiled response to charge questions prepared by subgroups of the EPEC Ballast Water Advisory Panel and to assess the Panel's position on key conclusions presented in the draft compilation.

Meeting Materials:

All materials discussed at the meeting are available at the SAB website, <http://www.epa.gov/sab>, at the [March 17, 2011, Ballast Water Advisory Panel Meeting](#) page.

Summary of Discussions:

Opening remarks and roll call

This meeting was announced in the Federal Register¹ and proceeded according to the meeting agenda.² **Ms. Goodman**, Designated Federal Officer for the Panel, convened the meeting and noted that the Ballast Water Advisory Panel (herein, Panel) operates in accordance with the Federal Advisory Committee Act. This means that meetings are announced and open to the public, all materials prepared for or by the Panel are available to the public, and meeting minutes are prepared. She noted that discussions on the call would reference selected portions of the draft Final Ballast Water Advisory Report, as identified in the agenda. Ms. Goodman noted that these materials had been made available on the SAB website.

Review of agenda and process to be used

Dr. Meyer welcomed the group and summarized the topics on the agenda. She also noted that the agenda would be adjusted so that the first topic discussed would be Charge Question 3: System Development. The remainder of the topics would proceed in the order noted in the agenda.

Dr. Meyer said the goal of this call was to reach agreement on the content of these report sections of the draft final report and their related conclusions. She also reminded the panel that the Draft Final report to be discussed today was still regarded as draft and asked that it not be cited or quoted.

Summary of Discussions

Dr. Meyer then asked Dr. Dobbs to lead the panel discussion of the draft final text for Charge question 3: System development. The panel discussion led to agreement on the following points:

- a) Dr. Tamburri's bullet point revisions regarding the characteristics of "successful systems: would be referred to in the text.
- b) The discussion of "sterilization" on p. 69 would be revised to be in parallel construction with other sections of the text, including the text on statistics.
- c) Mr. Reynolds would provide text regarding public comments.
- d) Dr. Dobbs and Mr. Reynolds would work with subgroup 2 to prepare a consistent cross-walk to the categories of ballast water treatment technologies.
- e) Dr. Dobbs and Mr. Reynolds will (1) clarify the text regarding the limitations of "tweaking" current systems with respect to meeting higher standards, and (2) describe how new technologies will be needed to meet the 100x and 1000x standards as an illustration, and (3) the "idealized system" will be used for illustrative purposes as an example of a new approach that would go beyond "business as usual."
- f) Subgroup 2 will revise the statement on p. 63, line9-12 to say something along the lines of "based on principles of operation, onshore treatment shows promise, but still requires testing and data to confirm performance."

Dr. Meyer then asked Dr. Tamburri to lead the discussion of Charge Questions 1 and 2, and Appendix A: Performance of shipboard systems. This discussion led to agreement on the following points:

- a) Ms. Goodman will send revisions suggested by Dr. Tamburri to Subgroup 1 for their consideration, e.g., the number of systems reviewed, the number of systems having credible data, and the fraction of "mature" systems that meet the D2 standard.
- b) Dr. Tamburri will work with Subgroup 1 to clarify what the A-D scoring system means with respect to different organism size classes, to the extent this is possible. Also, the text will note that charge questions 1 and 2 do not ask for distinctions by size class of organisms. The goal of the revision will be to clarify what the existing scoring system means in order to best assist the EPA with decisions about ballast water treatment technologies, while also clearly describing the limitations with "quantitative" scoring, given the resolution of the available data.

- c) Revisions to this section will incorporate the concept that current systems are successfully removing large numbers of organisms.
- d) Dr. Tamburri will elaborate briefly on Table 4.1, noting that some of the information provided to the Panel described some promising treatment ideas, but they were in early stages of conceptual development and could not be assessed by the Panel.
- e) Table 4.2 will be deleted.
- f) Dr. Tamburri will work with Subgroup 1 to clarify the meaning of “10 x, 100 x, and 1000 x” D2, working with Ms. Goodman, as needed to gather information from EPA, New York State, and California. This description will also be cross-walked to make it consistent with the Glossary.
- g) Appendix A is incorrect, due to a last minute formatting error. It will be corrected and provided to the Panel.

Dr. Meyer then led the Panel in a discussion of the draft Executive Summary and the Letter to the Administrator. The discussion led to agreement on the following points and follow-up actions:

- a) Dr. Meyer and Ms. Goodman will revise the Executive Summary so that it: 1) clarifies the respective roles of the concurrent SAB and the National Research Council studies on ballast water and invasive species; 2) maintains a neutral tone with respect to the need for more stringent standards; 3) describes risk management and HACCP principles as a way to establish what levels of protection are required; 4) provides a brief summary of current status of ballast water management and its challenges; and 5) presents answers and conclusions as concisely as possible, incorporating the Panel’s suggested changes.
- b) Dr. Meyer and Ms. Goodman will then work from the Executive Summary to prepare the Letter to the Administrator, including clarification that the Panel has not been asked to comment nor are commenting on what standards are needed.

Wrap up:

Dr. Meyer thanked the Panel for completing another teleconference with highly focused discussion and attention to detail. She asked panelists to send any remaining comments or revisions to Ms. Goodman by March 21, 2011. Dr. Meyer said she anticipated having the revised draft, including a draft Executive Summary and letter to the Administrator, posted by March 25, 2011. She also said the panel should anticipate that the report would receive a Quality review in mid-April, 2011.

Ms. Goodman adjourned the meeting at 3:00 p.m.

Respectfully Submitted:

Certified as Accurate:

/Signed/

/Signed/

Iris Goodman,
Designated Federal Officer

Dr. Judith L Meyer, Chair
SAB Ecological Processes and
Effects Committee

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by Panel members during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from Panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.

ATTACHMENT A: COMMITTEE ROSTER

**U.S. Environmental Protection Agency
Science Advisory Board
Ecological Processes and Effects Committee Augmented for the Ballast Water Advisory**

CHAIR

Dr. Judith L. Meyer, Distinguished Research Professor Emeritus, Odum School of Ecology, University of Georgia, Lopez Island, WA

MEMBERS

Dr. E. Fred Benfield, Professor of Ecology, Department of Biological Sciences, Virginia Tech, Blacksburg, VA

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

Dr. G. Allen Burton, Professor and Director, Cooperative Institute for Limnology and Ecosystems Research, School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI

Dr. Peter Chapman, Principal and Senior Environmental Scientist, Environmental Sciences Group, Golder Associates Ltd, Burnaby, BC, Canada

Dr. William Clements, Professor, Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins, CO

Dr. Loveday Conquest, Professor, School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA

Dr. Robert Diaz, Professor, Department of Biological Sciences, Virginia Institute of Marine Science, College of William and Mary, Gloucester Pt., VA

Dr. Wayne Landis, Professor and Director, Department of Environmental Toxicology, Institute of Environmental Toxicology, Huxley College of the Environment, Western Washington University, Bellingham, WA

Dr. Thomas W. La Point, Professor, Department of Biological Sciences, University of North Texas, Denton, TX

Dr. Amanda Rodewald, Associate Professor, School of Environment and Natural Resources, The Ohio State University, Columbus, OH

Dr. James Sanders, Director and Professor, Skidaway Institute of Oceanography, Savannah, GA

CONSULTANTS

Dr. JoAnn Burkholder, Professor, Department of Plant Biology, Center for Applied Aquatic Ecology, North Carolina State University, Raleigh, NC

Dr. Andrew Cohen, Senior Scientist and Director, Biological Invasions Program, San Francisco Estuary Institute, Oakland, CA

Dr. Fred Dobbs, Professor and Graduate Program Director, Ocean, Earth and Atmospheric Sciences, College of Sciences, Old Dominion University, Norfolk, VA

Dr. Lisa Drake, Senior Scientist, Science Applications International Corporation, Key West, FL

Dr. Charles Haas, L.D. Betz Professor of Environmental Engineering, Civil, Architectural and Environmental Engineering, College of Engineering, Drexel University, Philadelphia, PA

Mr. Edward Lemieux, Director, Center for Corrosion Science Engineering, Naval Research Laboratory, Washington, DC

Dr. David Lodge, Professor, Biological Sciences, University of Notre Dame, Notre Dame, IN

Mr. Kevin Reynolds, Senior Marine Engineer, The Glostén Associates, Seattle, WA

Dr. Mario Tamburri, Associate Professor, Chesapeake Biological Laboratory, Maritime Environmental Resource Center, University of Maryland Center for Environmental Science, Solomons, MD, United States

Dr. Nicholas Welschmeyer, Professor of Oceanography, Moss Landing Marine Laboratories, San Jose State University, Moss Landing, CA

SCIENCE ADVISORY BOARD STAFF

Dr. Thomas Armitage, Designated Federal Officer, U.S. Environmental Protection Agency, Washington, DC

Ms. Iris Goodman, Designated Federal Officer, U.S. Environmental Protection Agency, Washington, DC

Attachment B:

Members of the public who requested the call-in number for the meeting:

Raymond Vaughan, New York State Attorney General's Office

Ryan Albert, EPA Office of Water

Richard Everett, U.S. Coast Guard

Materials Cited

The following meeting materials are available on the SAB website, <http://www.epa.gov/sab>, at the March 17, 2011, Ecological Processes and Effects Committee meeting page:

<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/7de637a12a2bcb598525783300709b88!OpenDocument&Date=2011-03-17>

¹ Federal Register, Vol. 76, No. 40/Tuesday, March 1, 2011/Notices

² Meeting Agenda, March 17, 2011