

**United States Environmental Protection Agency (U.S. EPA) Science Advisory Board (SAB)
Teleconference Meeting
May 27, 2015
Meeting Minutes**

Date and Time: May 27, 2015, 1:00 p.m. to 3:30 p.m.

Location: By teleconference only

Purpose: To discuss information provided in the agency's Fall 2014 Semiannual Regulatory Agenda and to review draft SAB report on the EPA's draft technical approach for ensemble modeling to develop preliminary phosphorus objectives for Lake Erie.

Meeting Participants:

SAB Members (see Roster¹)

Dr. Peter Thorne, Chair

Dr. Joseph Arvai

Dr. Sylvie M. Brouder

Dr. Ingrid Burke

Dr. George Daston

Dr. Costel Denson

Dr. Joel Ducoste

Dr. R. William Field

Dr. H. Christopher Frey

Dr. Kimberly L. Jones

Dr. Madhu Khanna

Dr. Francine Laden

Dr. Denise Mauzerall

Dr. Kristina D. Mena

Dr. James R. Mihelcic

Dr. Eileen Murphy

Dr. James Opaluch

Mr. Richard L. Poirot

Dr. Amanda D. Rodewald

Dr. William Schlesinger

Dr. Gina Solomon

Dr. Daniel O. Stram

Dr. Jeanne VanBriesen

Dr. Elke Weber

Dr. Charles Werth

Dr. Peter J. Wilcoxon

Dr. Dawn J. Wright

SAB Staff:

Mr. Thomas Carpenter, Designated Federal Officer (DFO),

Mr. Christopher Zarba, SAB Staff Office Director

Other Attendees: Members of the Public Who Requested Call-in Information:

See Attachment A

Meeting Materials:

All materials for the meeting are available on the SAB webpage at:

<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/ea558d396d59e6df85257e2d005851d3!OpenDocument&Date=2015-05-27>

Meeting Summary:

Convene the meeting

Mr. Thomas Carpenter, Designated Federal Officer (DFO) for the chartered SAB, formally opened the meeting and noted that this federal advisory committee teleconference of the SAB had been announced in the Federal Register² (published April 27, 2014, 80 FR 23271-23272). The SAB is an independent,

expert federal advisory committee chartered under the authority of the Federal Advisory Committee Act (FACA). The SAB is empowered by law, the Environmental Research, Development, and Demonstration Authorization Act (ERDDAA), to provide advice to the EPA Administrator on scientific and technical issues that support the EPA's decisions. The DFO noted that the Federal Register notice announcing the meeting had provided the public with an opportunity to provide written and oral comment. There was no request for oral comment and no written public comments received.

The DFO stated that the SAB consists entirely of special government employees (SGEs) appointed by EPA to their positions. As SGEs, chartered SAB members are subject to all applicable ethics laws and implementing regulations. The EPA has determined that advisors participating in this meeting are in compliance with ethics rules that apply to them.

Purpose of the teleconference and review of the agenda

The SAB Chair, Dr. Peter Thorne, stated that the purpose of the teleconference is to conduct a quality review of the draft SAB report, *Early Advice on an Ensemble Modeling Approach for Developing Lake Erie Phosphorus Objectives (2-10-15)*, and to discuss information provided in the agency's Fall 2014 Semiannual Regulatory Agenda Review to identify actions that merit further consideration by the SAB.

Quality review of the draft SAB report, *Early Advice on an Ensemble Modeling Approach for Developing Lake Erie Phosphorus Objectives (2-10-15)*

Dr. Thorne reminded members that the purpose of the quality review is to determine if the report is ready to transmit to the Administrator as an SAB report and under what conditions. Dr. Thorne noted that this report responds to the agency's request for a consultation whereby the SAB provides expert advice on technical questions before the EPA begins substantive work on that issue. While the consultation occurs early in the development of the agency's activity, the Chartered SAB will conduct a quality review to provide advice to the Administrator.

In reaching a determination on the draft SAB report, he asked them to focus on the SAB's four quality review questions:

- Were the charge questions adequately addressed?
- Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?
- Is the draft report clear and logical?
- Are the conclusions drawn or recommendations provided supported by the body of the draft report?

Presentation from the Panel Chair

Dr. Thorne introduced Dr. William Schlesinger, Chair of the SAB Advisory Panel on Lake Erie's Phosphorus Objectives Review. Dr. Thorne asked Dr. Schlesinger to provide background on the draft report as an introduction to the quality review discussion. Dr. Schlesinger acknowledged the written comments received from chartered SAB members.³

Dr. Schlesinger noted that this advisory activity was a consultation and the agency was seeking early advice on a framework to use a cadre of models in an ensemble approach to evaluate multiple indicators and develop a phosphorus concentration target for Lake Erie as identified in the Great Lakes Water Quality Agreement. He explained that EPA identified potential eutrophication indicators that they

anticipated had sufficient data and models previously used to evaluate Lake Erie to estimate phosphorus objectives for the three lake basins and a lake-wide approach.

Dr. Schlesinger summarized the available information the panel was provided to develop the early advice. The information included: the *Technical Approach for Lake Erie Phosphorus Load-Response Modeling (2014)*, presentations from experts on Lake Erie and the available models, and EPA presentations. He noted that the EPA did not provide model results, validation approaches or a method to compile results from the models.

In general the panel agreed with the eutrophication response indicators and the ensemble modeling approach. He noted that the panel commented that phosphorus loading in the lake has been relatively stable over time but that internal processes may have changed the patterns, amounts and internal cycling of phosphorus. Dr. Schlesinger noted that the panel discussed these issues and found they will be important considerations for each of the models and how well they estimate available phosphorus concentrations.

Dr. Schlesinger noted that the agency will be coming back to the SAB after it considers the SAB's early advice and develops a draft phosphorus objective for Lake Erie.

Chartered SAB Discussion and Disposition of the Report

After Dr. Schlesinger completed his remarks, the lead reviewers briefly summarized their written comments. Dr. Sylvie Brouder, the first lead reviewer on the call, found that the panel's report gives a good and fairly comprehensive coverage to the four charge questions posed by the agency. She noted that the report would benefit by expanding comments on potential aspects of biochemistry and nutrient cycling. She also found that the technical approach provides little information on how the models and indicators would be used in concert with one another. She agreed that the regime shift is occurring and questioned whether the issues warranted further clarification. She also noted that the expectations of limited data quality and or quantity may be at least as restricting as the models themselves.

Dr. Ingrid Burke, the second lead reviewer agreed with Dr. Brouder's comments. She continued her review noting that the discussion of limited data on *Cladophora* could be expanded to discuss the data that would be necessary to utilize this indicator.

Dr. Amanda Rodewald, the third lead reviewer on the call, agreed with the previous reviewers and stated that if the panel had more specific recommendations on the most important metrics of community changes or mediating factors to measure they should be included in the report.

Dr. David Dzombak, the fourth lead reviewer, could not attend the call and Dr. Thorne summarized the written comments Dr. Dzombak provided. He noted that Dr. Dzombak's comments aligned with the previous reviewers. An additional comment was that he noted that the report should be clear in distinguishing between total phosphorus and dissolved phosphorus.

Dr. Schlesinger thanked the lead reviewers for their comments and noted that the panel had similar discussions and the recommendations were more general in part because the Technical Approach was not specific. He stated that most of the issues the lead reviewers identified had been discussed by the panel and could be incorporated into the panel's report.

Dr. Thorne thanked the lead reviewers for their comments. He then began the Board's general discussion and other members provided comments:

- Adaptive management is portrayed in the SAB's report without much needed context.
- One member questioned the technical approach, noting that 11,000 metric tons of (total phosphorus is a very high level based on achievability or the target number. EPA clarified that the load value was developed in the 1980s.
- The report links to 75 pages of panel members comments. Perhaps a sentence should be added to what the individual comments actually mean.

Dr. Schlesinger commented that language could be added to the letter to be clearer and provide more background material. He noted that the iterations on modeling do not necessarily equate to adaptive management and EPA staff on the teleconference clarified that they are referring to monitoring and management.

Dr. Thorne concluded the discussion by summarizing the generally favorable comments received and Dr. Schlesinger's willingness to refine the report in light of oral and written comments from the Board.

Dr. Thorne proposed two options to revise and finalize the report: (1) the report would be revised based on the Board's discussion and reviewed by the SAB Chair and Panel Chair before transmittal to the Administrator, or (2) the revised report would be reviewed by a group of self-selected members, including the SAB Chair, before transmittal to the Administrator. Dr. Thorne asked for a motion to dispose of the report. Dr. Daston made a motion that the second option be considered and Dr. Opaluch seconded the motion. Dr. Thorne called for discussion on the motion. Hearing no requests for further discussion, Dr. Thorne called for the yeas and nays. The motion was approved unanimously with no abstentions. Dr. Brouder agreed to review the SAB report before transmittal to the Administrator.

Recommendation for the Fall 2014 Regulatory Agenda

Dr. Thorne briefly reviewed the purpose of the SAB's regulatory agenda science screening activity, which is to determine, as authorized by the Environmental Research, Development and Demonstration Authorization Act, whether to review the adequacy of the science supporting planned regulatory actions in the agency's Semi-annual Regulatory Agenda. He introduced Dr. James Mihelcic, Chair of the SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science, to review the recommendations from the work group and informed participants that the work group memorandum⁴ contained important background on this activity.

Presentation of the Work Group Recommendations

Dr. Mihelcic reviewed the Board's statutory authority for screening the science associated with planned actions and the process used by the work group in evaluating available agency information to develop recommendations for the chartered SAB. He acknowledged the contributions of work group members Drs. Costel Denson, Joel Ducoste, R. William Field, H. Christopher Frey, Steven Hamburg and Mr. Richard Poirot. He discussed the major planned actions that were the focus of SAB attention, the work group's recommendations, and supporting rationales. The work group recommended that no further SAB consideration was merited for six actions:

- Uniform National Discharge Standards for Vessels of the Armed Forces--Phase II--Batch Two (UNDS) (2040-AF53);
- Modernization of the Accidental Release Prevention Regulations Under Clean Air Act (2050-AG82);

- User Fee Schedule for Electronic Hazardous Waste Manifest (2050-AG80);
- Oil and Natural Gas Sector: Reconsideration of Remaining Provisions of New Source Performance Standards (2060-AS30);
- Major Source Determination for Oil and Gas Extraction Facilities (2060-AS06); and
- Revisions to Confidentiality of Business Information (2025-AA39).

Dr. Mihelcic noted that the Proposed Greenhouse Gas Endangerment and Cause or Contribute Findings Under CAA Section 231 for Aircraft, and ANPRM on the International Process for Reducing Aircraft GHGs and Future Standards (2060-AS31) is a topic of high interest that will be based on information that has been well-reviewed and is based on an approach for which there is precedent. While the Work Group recommends the action does not merit further SAB consideration they anticipate that subsequent steps in the regulatory process will involve substantive scientific issues that may warrant SAB consideration.

The SAB deferred discussion on the Revision--Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings and Uranium In Situ Leaching Processing Facilities (2060-AP43) during the Spring 2013 Review of the Regulatory Agenda because the action was under development and limited information was available from the agency. The proposed action was signed on December 31, 2014 and included in this review cycle. Based on the information provided by the agency, the Work Group recommended that the action does not merit further SAB consideration. However, the Work Group found that the 2012 SAB report provided multiple recommendations and considerations for the use of models to support the proposed rule. The information provided by the agency could have more clearly explained how the agency's use of models adequately addressed the complex scientific and technical basis for the varying site conditions considered in the proposed rule.

Questions from members regarding the Revision--Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings and Uranium In Situ Leaching Processing Facilities (2060-AP43):

- Members noted that the baseline values still seems to be a weak part of the analysis supporting the proposed rule.
- Another member noted that the 2012 report recommendations and advice on model validity were not transparently addressed in the proposal and asked if EPA would provide further clarity.
- A different member asked if the final rule would be sent to the SAB.

The agency staff on the teleconference noted that the agency does not anticipate coming to the Board on this issue once the rule is final. They will be evaluating the comments on the proposal and at this time the agency found that the current modeling techniques are adequate and the validated models benefited from the recommendations in the 2012 SAB report. EPA Staff also noted that they could evaluate specific recommendations as addressed in the Final rule and could brief the Board.

The Chair invited a motion to dispose of the work group recommendations. Dr. Hamburg moved that the SAB Chair convey a letter to the Administrator noting that:

- (1) the SAB has determined that no further consideration is merited at this time for eight planned actions;
- (2) the Board recognizes that the 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) and the action will be based on information that has been well-reviewed and 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; and
- (3) for the Proposed Rulemaking for 40 CFR Part 192: Amendments to Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (2060-AP43) the SAB found that the agency addressed the 2012 SAB recommendations and incorporated most of the recommendations into the proposed action.. However, the agency should 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.

Dr. George Daston seconded the motion. The motion was approved unanimously with no abstentions.

Dr. Thorne thanked the Work Group for its analysis and its thoughtful report of recommendations

The DFO adjourned the meeting at 3:10 p.m.

Respectfully Submitted

Certified as Accurate

 /signed/
Mr. Thomas Carpenter
SAB DFO

 /signed/
Dr. Peter S. Thorne
SAB Chair

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by committee members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the 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.

Materials Cited

The following meeting materials are available on the SAB website, <http://www.epa.gov/sab>, at the page for the [May 27, 2015](#) teleconference:

<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/ea558d396d59e6df85257e2d005851d3!OpenDocument&Date=2015-05-27>

Attachment A
Members of the Public Who Requested Call-in Information

Ms. Santina Wortman, US Environmental Protection Agency
Mr. Paul Horvatin, US EPA
Ms. Amanda Palleschi, Inside EPA
Ms. Chevon K. Wright-Pee, Koch Companies Public Sector, LLC
Mr. David Dunlap, Koch Companies Public Sector, LLC
Ms. Ingrid Rosencrantz, US EPA
Dr. Carl Mazza, US EPA
Ms. Sandy Evalenko, US EPA
Mr. Robert Benson, US EPA
Ms. Tomeka Nelson, US EPA
Mr. James Democker, US EPA
Mr. Bruce Moore, US EPA

¹ Roster of SAB members

² Federal Register published Vol. 80, No. 80 Monday, April 27, 2015 (23271-23272)

³ Early Advice on an Ensemble Modeling Approach for Developing Lake Erie Phosphorus Objectives (02/10/2015) Draft Report Member Comments as of 05/26/15

⁴ Recommendations regarding the Fall 2014 Regulatory Agenda.