



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

**OFFICE OF THE ADMINISTRATOR  
SCIENCE ADVISORY BOARD**

November 12, 2014

**MEMORANDUM**

**SUBJECT:** Formation of Science Advisory Board Panel for Review of Lake Erie Phosphorus Objectives

**FROM:** Thomas Carpenter **/signed/**  
Designated Federal Officer (DFO)  
EPA Science Advisory Board Staff Office (1400R)

**THRU:** Wanda Bright **/signed/**  
SAB Ethics Officer  
EPA Science Advisory Board Staff Office (1400R)

**TO:** Christopher S. Zarba  
Director and Designated Ethics Official  
EPA Science Advisory Board Staff Office (1400R)

The U.S. Environmental Protection Agency (EPA) Region 5 requested the Science Advisory Board (SAB) to provide early advice on possible modeling approaches to meet the Great Lakes Water Quality Agreement (GLWQA) Lake Ecosystem Objectives. Region 5 has also requested a subsequent SAB review of the modeled phosphorus targets and loads. The SAB Staff Office is forming an *ad hoc* panel under the auspices of the SAB to provide early advice and conduct the subsequent review through the chartered SAB.

EPA Region 5 is co-leading a binational workgroup to develop and implement the Nutrients Annex (“Annex 4”) in accordance with Article 3(b)(i) of the 2012 GLWQA. Under Annex 4, the U.S. and Canada are charged with establishing binational Substance Objectives for phosphorus concentrations, loading targets and allocations for the nearshore and offshore waters of Lake Erie by February 2016. The general approach is to use an ensemble of Lake Erie ecosystem models to compute appropriate load-response relationships for eutrophication response indicators of concern. EPA Region 5 requested an SAB consultation (i.e., early advice) on the appropriateness of the modeling approach to meet the GLWQA Lake Ecosystem Objectives. EPA Region 5 is also requesting a subsequent review of the modeled phosphorus targets and loads to obtain advice on: (1) whether these targets and loads are

sufficient to meet the Lake Ecosystem Objectives as defined in the GLWQA; and (2) whether the modeled results reflect the best available information on the phosphorus sources and trophic status of Lake Erie.

This memorandum addresses the set of determinations that were necessary for forming the SAB Lake Erie Phosphorus Objectives Review Panel, including:

1. The type of review body that will be used to conduct the review, and the nature of the review;
2. The types of expertise needed to address the general charge;
3. Financial conflict of interest considerations, including identification of parties who are potentially interested in or may be affected by the topic to be reviewed;
4. How regulations concerning “appearance of a loss of impartiality” pursuant to 5 C.F.R. § 2635.502 apply to members of the committee or panel;
5. Other considerations that might affect the objectivity of members of the committee or panel; and
6. How individuals were selected for the committee or panel.

#### **DETERMINATIONS:**

1. The type of review body that will be used to conduct the review, and the nature of this review.

The *Federal Register* Notice seeking nominees to form a panel for this review (79 FR 42006-420007) announced that the panel would be an augmented Ecological Process and Effects Committee (EPEC) panel. The SAB Staff Office determined to form an *ad hoc* panel with subject matter experts and available members of the EPEC. As required by the SAB authorizing statute (the Environmental Research, Development and Demonstration Authorization Act, ERDDAA), the chair of the *ad hoc* panel will be a member of the chartered SAB.

2. Types of expertise needed to address the general charge.

The SAB Staff Office announced in a *Federal Register* Notice (79 FR 42006-42007) published on July 18, 2014, that it requests public nominations of scientific experts to augment the SAB Ecological Process and Effects Committee (EPEC) to form a panel to provide early advice on and subsequent review of preliminary binational phosphorous objectives, loading targets and allocations for the nearshore and offshore waters to achieve the Lake Ecosystem Objectives for Lake Erie, pursuant to the Nutrients Annex (Annex 4) of the 2012 GLWQA. Experts were sought in one or more of the following

areas: algal and cyanobacteria ecology; aquatic ecology; hydrology; limnology; ecosystem modeling; and nutrient fate and transport.

The SAB Staff Office identified 33 candidates based on their relevant expertise and willingness to serve in response to the request for nominations. On September 3, 2014, the SAB Staff Office posted a notice on the SAB Web site inviting public comments on the List of Candidates for the Panel, including biographical sketches, by September 24, 2014. The SAB Staff Office did not receive comments on the candidate list.

3. Financial conflict of interest considerations, including identification of parties who are potentially interested in or may be affected by the topic to be reviewed.
  - (a) Identification of parties (or class of parties) whose financial interests may be affected by the topic to be reviewed: The principal interested and potentially affected parties as a class for this topic are: (1) industries and non-government organizations involved in or subject to specific actions to meet the phosphorus objectives for Lake Erie; (2) entities that discharge phosphorus to surface waters in the Lake Erie basin; and (3) those involved with the interests of private or public organizations that may have received funding under the Great Lakes National Program Office (GLNPO).
  - (b) Conflict of interest considerations: For Financial Conflict of Interest (COI) issues, the basic 18 U.S.C. § 208 provision states that: “An employee is prohibited from participating *personally or substantially* in an official capacity in any *particular matter* in which he, to his knowledge, or any person whose interests are imputed to him under this statute has a financial interest, if the particular matter will have a *direct and predictable effect* on that interest [emphasis added].” For a conflict of interest to be present, all elements in the above provision must be present. If an element is missing, the issue does not involve a formal conflict of interest; however, the general provisions in the appearance of impartiality guidelines still apply and need to be considered.
    - (i) Does the general charge to the SAB for the review of the Lake Erie Phosphorus Objectives Review involve a particular matter? A “particular matter” refers to matters that “...will involve deliberation, decision, or action that is focused upon the interest of specific people, or a discrete and identifiable class of people.” It does not refer to “...consideration or adoption of broad policy options directed to the interests of a large and diverse group of people.” [5 C.F.R. § 2640.103 (a)(1)]. A particular matter of general applicability means a particular matter that is focused on the interests of a discrete and identifiable class of persons, but does not involve specific parties [5 C.F.R. § 2640.102(m)].

The Lake Erie Phosphorus Objectives Review qualifies as a *particular matter of general applicability* in that it involves deliberation and under certain circumstance the advice could involve the interests of a discrete and identifiable class of people. The identifiable class of people constitutes those who are involved with organizations facing the regulatory decisions related to the release of phosphorus in the Lake Erie basin.

(ii) Will there be personal and substantial participation on the part of the Panel members? Participating personally means direct participation in this review. Participating substantially refers to involvement that is of significance to the matter under consideration. [5 C.F.R. § 2640.103(a)(2)].

For this review, the SAB Staff Office has determined that the members of the Lake Erie Phosphorus Objectives Review Panel will be *participating personally in the matter*. Members will be providing the agency with advice and recommendations through the chartered SAB on the agency's phosphorus load and target technical analyses, and such advice is expected to directly influence the binational standard for GLWQA Annex 4 Phosphorus Objective for Lake Erie. Therefore, *participation in this review also will be substantial*.

(iii) Will there be a direct and predictable effect on Panel members' financial interests? A direct effect on a participant's financial interest exists if "...a close causal link exists between any decision or action to be taken in the matter and any expected effect of the matter on the financial interest. ...A particular matter does not have a direct effect ...if the chain of causation is attenuated or is contingent upon the occurrence of events that are speculative or that are independent of, and unrelated to, the matter. A particular matter that has an effect on a financial interest only as a consequence of its effects on the general economy is not considered to have a direct effect." [5 C.F.R. § 2640.103(a)(i)] A predictable effect exists if, "...there is an actual, as opposed to speculative, possibility that the matter will affect the financial interest." [[5 C.F.R. § 2640.103(a)(ii)]

The ethics regulations include an exemption allowing Special Government Employees (SGEs) serving on federal advisory committees to participate in any particular matter of general applicability where the disqualifying financial interest arises from their non-Federal employment or non-Federal prospective employment, provided that the matter will not have a special or distinct effect on the employee or employer other than as part of a class [5 C.F.R. § 2640.203(g)]. (This exemption does not include the interests of an SGE arising from the ownership of stock in his employer or prospective employer.)

Lake Erie Phosphorus Objective Review Panel members and prospective panelists were asked to submit EPA Form 3110-48, a Confidential Financial Disclosure for Special Government Employees, so that the SAB Staff Office could make this determination.

*The SAB Staff Office has determined that there will be no direct and predictable effect on the financial interests of members of the Lake Erie Phosphorus Objective Review from their participation on this panel.*

4. How regulations concerning “appearance of a loss of impartiality,” pursuant to 5 C.F.R. § 2635.502, apply to members of the Panel

The Code of Federal Regulations at 5 C.F.R. § 2635.502(a) states that: “Where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the person determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and has received authorization from the agency designee.”

Further, § 2635.502(a)(2) states that, “An employee who is concerned that circumstances other than those specifically described in this section would raise a question regarding his impartiality should use the process described in this section to determine whether he should or should not participate in a particular matter.”

Prospective panel members were evaluated against the 5 C.F.R. 2635(a)(2) general requirements for considering an appearance of a loss of impartiality. This evaluation included information provided on the EPA Form 3110-48 confidential financial disclosure forms. *The SAB Staff Office has determined that the matter to be considered by the Lake Erie Phosphorus Objectives Review is not a particular matter involving specific parties; i.e., this matter does not involve “any judicial or other proceeding, application, request for a ruling or other determination, contract, claim, controversy, investigation, charge, accusation, arrest or other particular matter involving a specific party or parties in which the United States is a party or has a direct and substantial interest” [5 C.F.R. 2637.102(a)(7)].*

5. Other considerations that might affect the objectivity of members of the committee or panel.

Members of SAB panels must be scientific and technical experts who are objective and open-minded, able to engage in deliberative discussions with scientists who may have disparate perspectives. To evaluate candidates, the SAB Staff Office considers information (if any) provided by the public in response to the invitation for public comment on the candidates, information provided by candidates (including on the EPA Form 3110-48), and information independently gathered by the SAB Staff Office.

As part of a determination that members of committees and panels are objective and open-minded on the topic of the review, and consistent with the agency’s Peer Review Policy, the SAB Staff Office considers previous involvement in the matter before the committee or panel. The SAB Staff Office also considered whether candidates were authors and principal investigators that developed any of the models being considered for the ensemble modeling approach. This evaluation includes responses provided by candidates to the following supplemental questions with respect to the approach being taken for Lake Erie phosphorus objectives, the models being used, and the data collection and evaluation.

1. Do you know of any reason that you might be unable to provide impartial advice on the matter to come before the panel/committee/subcommittee or any reason that your impartiality in the matter

might be questioned?

2. Have you had any previous involvement with the review document(s) under consideration including authorship, collaboration with the authors, or previous peer review functions? If so, please identify and describe that involvement.
3. Have you served on previous advisory panels, committees or subcommittees that have addressed the topic under consideration? If so, please identify those activities.
4. Have you made any public statements (written or oral) on the issue that would indicate to an observer that you have taken a position on the issue under consideration? If so, please identify those statements.

*The SAB Staff Office has determined that there is no reason to believe that the members selected for the Lake Erie Phosphorus Review Panel would not be objective and open-minded and able to engage in deliberative discussions with scientists who may have disparate points of view on the matter before the panel.*

#### 6. The selection of Panel members

The SAB Staff Office Director makes the final decision about who serves on the Lake Erie Phosphorus Objective Review Panel, based on all relevant information. This includes a review of the member's confidential financial disclosure form (EPA Form 3110-48) and an evaluation of an appearance of a loss of impartiality, and application of criteria to ensure a balanced panel.

As a result of a review of all relevant information including each candidate's confidential financial disclosure form (EPA Form 3110-48), the responses to the four questions above, and public comments, the SAB Staff Office has determined that there are no conflicts of interest or appearances of a loss of impartiality for the members of this Panel.

For the SAB Staff Office, a balanced committee or panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating an individual committee member include: (a) scientific and/or technical expertise, knowledge, and experience (primary factors); (b) availability and willingness to serve; (c) absence of financial conflicts of interest; (d) absence of an appearance of a loss of impartiality; (e) skills working in committees, subcommittees and advisory panels; and, for the committee as a whole, (f) diversity of scientific expertise, and viewpoints.

On the basis of the above-specified criteria, the members of the SAB Lake Erie Phosphorus Objectives Review Panel are as follows:

**SAB Lake Erie Phosphorus Objectives Review Panel**

Dr. William Schlesinger, Cary Institute of Ecosystem Studies (NY) (Chair)  
Dr. Merryl Alber, University of Georgia (GA)  
Dr. James Ammerman, Stony Brook University (NY)  
Dr. Steven Bartell, Cardno ENTRIX (TN)  
Dr. Hunter Carrick, Central Michigan University (MI)  
Dr. Celia Chen, Dartmouth College (NH)  
Mr. John P. Connolly, Anchor QEA, LLC (NJ)  
Dr. Richard Di Giulio, Duke University (NC)  
Dr. Robert Diaz, College of William and Mary (VA)  
Mr. Doug Endicott, Great Lakes Environmental Center (MI)  
Mr. James J. Fitzpatrick, HDR Engineering (NJ)  
Dr. Robert T. Heath, Kent State University (OH)  
Dr. Lucinda Johnson, University of Minnesota Duluth (MN)  
Dr. J. Val Klump, Univ. of Wisconsin-Milwaukee (WI)  
Dr. Thomas W. La Point, University of North Texas (TX)  
Dr. Douglas McLaughlin, National Council for Air and Stream Improvement (MI)  
Dr. Kenneth Reckhow, Duke University (NC)  
Dr. Ramesh Reddy, University of Florida (FL)  
Dr. Emma Rosi-Marshall, Cary Institute of Ecosystem Studies (NY)  
Dr. Eric P. Smith, Virginia Polytechnic Institute and State University (VA)  
Dr. William Stubblefield, Oregon State University (OR)  
Dr. Maurice Valett, University of Montana (MT)

Concurred,

*/signed/*

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Mr. Christopher S. Zarba  
Staff Director and Deputy Ethics Official  
EPA Science Advisory Board (1400R)

November 12, 2014  
Date