

**United States Environmental Protection Agency (U.S. EPA)**  
**Science Advisory Board (SAB)**  
**Advisory Meeting**  
**June 11, 2014**  
**Meeting Minutes**

**Date and Time:** June 11, 2014, 11:00 a.m. – 1:00 p.m. Eastern Time

**Location:** By telephone.

**Purpose:** to discuss planned actions identified in the agency's Fall 2013 regulatory agenda and their supporting science.

**Meeting Participants:**

**SAB Members** (See Roster<sup>1</sup>)

Dr. David T. Allen, SAB Chair  
Dr. George Alexeeff  
Dr. Peter Chapman  
Dr. Terry Daniel  
Dr. George Daston  
Dr. Costel Denson  
Dr. Otto C. Doering, III  
Dr. Michael Dourson  
Dr. Joel Ducoste  
Dr. T. Taylor Eighmy  
Dr. Elaine Faustman  
Dr. R. William Field  
Dr. Cynthia M. Harris  
Dr. Robert Johnston

Dr. Kimberly L. Jones  
Dr. Catherine Karr  
Dr. Nancy K. Kim  
Dr. Francine Laden  
Dr. James R. Mihelcic  
Dr. Eileen Murphy  
Dr. James Opaluch  
Dr. Amanda Rodewald  
Dr. Gina Solomon  
Dr. Daniel Stram  
Dr. Peter Thorne  
Dr. Paige Tolbert  
Dr. Peter Wilcoxon

**SAB Staff:**

Dr. Angela Nugent, SAB Staff Office, Designated Federal Officer (DFO)  
Mr. Thomas Carpenter, DFO for the SAB Work Group on EPA Planned Actions for SAB  
Consideration of the Underlying Science

**Other Attendees:**

Attachment A lists members of the public who requested the call-in information for this meeting.

**Meeting Materials:**

All materials provided to the SAB for this meeting are available on the SAB website at:  
<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/177ad6ad17fe9fd585257cd0005bdc3c!OpenDocument&Date=2014-06-11>

## **Meeting Summary:**

### **Convene the meeting**

Dr. Angela Nugent, Designated Federal Officer (DFO), formally opened the meeting and noted that this federal advisory committee meeting of the SAB had been announced in the *Federal Register* on May 14, 2014 (79 FR 27604-27605). She briefly noted that the EPA Science Advisory Board (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 inform 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 were no advance requests for oral comment and no written comments submitted in advance of the meeting. She noted that there would be an opportunity for clarifying comments from the public or clarifying remarks from agency representatives. She asked that anyone wishing to provide such comments or remarks to inform her by email after the SAB concludes its discussions of agency planned actions and their supporting science and before Board disposition of that action.

Dr. Nugent stated that the SAB consists entirely of special government employees (SGEs) appointed by EPA to their positions. As government employees, the members are subject to all applicable ethics laws and implementing regulations. The EPA has determined that advisors participating in this meeting have no financial conflicts of interest or appearance of loss of impartiality under ethics regulations specified in 5 CFR 2635 relating to the topics to be discussed at the meeting.

### **Goals and agenda for the meeting**

Dr. David Allen, the SAB Chair, welcomed the group. He reviewed the agenda<sup>2</sup> and noted that the major agenda item was to consider recommendations from the workgroup considering major actions in the Fall 2013 Regulatory Agenda. During the call, the chartered SAB would: (1) receive a report from Dr. James Mihelcic, Chair of the SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science; (2) discuss the Work Group recommendations; (3) receive any additional clarifying comments that the public wishes to provide or clarifying remarks that the agency wishes to provide; and (4) discuss the disposition of the Work Group's recommendation

### **Discussion of Planned Agency Actions and their Supporting Science**

Dr. Mihelcic gave a short presentation that summarized the process used by the SAB work group to consider major planned actions in the Fall 2013 Regulatory Agenda, criteria used for decision making, and the decisions reached by the Work Group. The information summarized was contained in the May 13, 2014 "Memorandum from the SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science with recommendations for chartered SAB consideration" posted on the SAB website.<sup>3</sup> Dr. Mihelcic acknowledged the contributions of Work Group members Drs. Peter M. Chapman, Taylor Eighmy, H. Christopher Frey, Kimberly L. Jones and Kristina D. Mena in gathering needed information and deliberating to arrive at the recommendations in the memorandum. The Work Group recommended that no

further SAB consideration was warranted for the five major actions considered (listed in the table below).

RIN	Full Title of Major Planned Actions
<a href="#">2060-AR88</a>	Standards of Performance for Greenhouse Gas Emissions from Modified Sources: Electric Utility Generating Units
<a href="#">2060-AS16</a>	Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2
<a href="#">2050-AG74</a>	Additions to List Section 241.4 Categorical Non-Waste Fuels
<a href="#">2050-AG77</a>	Hazardous Waste Export-Import Revisions Rule
<a href="#">2040-AF03</a>	Development of Best Management Practices for Recreational Boats under § 312(o) of the Clean Water Act

After Dr. Mihelcic had completed summarizing the Work Group report, the SAB Chair discussed how the chartered SAB would discuss and dispose of the Work Group’s recommendations. Similar to the process used for past discussions, the Board would consider recommendations for each action independently and could consider a variety of options, including options used in past review such as taking no action, monitoring agency activity to see if a future SAB review were warranted, and monitoring current SAB reviews to determine if they sufficiently address needed scientific questions. The Board could also initiate an advisory activity to provide advice and comment, if the Board determines a need. The chartered SAB’s screening process for reviewing information about planned actions announced in the regulatory agenda was designed to allow the SAB to provide the Administrator with science advice early in the development of a planned action, when the Board determines a need. Initial determinations not to comment on planned actions do not prevent the Board from providing advice at a later time.

Dr. Allen then asked chartered SAB members for any questions about the Work Group’s report and recommendations.

Regarding planned action 2050-AG77, Hazardous Waste Export-Import Revisions Rule, a member asked whether the Work Group considered how additional chemicals, such as beryllium, might be added. Dr. Mihelcic responded that the Work Group understood the action as a procedural rule modifying existing procedures, where there was no need for new science.

Regarding planned action 2050-AG74, Additions to List Section 241.4 Categorical Non-waste Fuels, a member asked about the kinds of information that the EPA provided related to including creosote-treated railroad ties. Dr. Mihelcic responded that the information provided on pages C-1 and 2 of the Work Group report detailed the information provided to the Work Group prior to the publication of the rule. The member asked whether the Agency had considered data availability and comparisons for other halogens, such as chlorine. Dr. Mihelcic noted that Work Group member Dr. Kristina Mena examined technical information in the EPA docket comparing

contaminant release when burning creosotes, compared to other fuels. Mr. Thomas Carpenter, DFO to the Work Group, noted that the EPA proposed rule was published during the time of the Work Group's deliberations and that Dr. Mena had access to and reviewed the technical information supporting to the rules. The chartered SAB members expressed thanks for Dr. Mena's efforts and noted the need for the Work Group's specific examination of these technical documents be noted in the minutes of the Board's deliberations during this June 11, 2014 teleconference.\* The final comment on this action came from the SAB Chair, who noted that on page D-10 of the Work Group memo, which contains the EPA's discussion of its planned action, the pronoun "We" refers to the EPA and not the SAB.

Regarding planned action 2040-AF03, Development of Best Management Practices for Recreational Boats under § 312(o) of the Clean Water Act, a chartered SAB member asked for additional explanation for recommending no further SAB action; page D-19 of the Work Group memorandum indicated that the action merited a high level of interest because it addressed areas of substantial uncertainties, involved major environmental risks, related to emerging environmental issues, and exhibited a long-term outlook. Dr. Mihelcic explained that the Work Group intended to communicate that the broad general issue of invasive organisms is important and of high concern, but that the planned action to develop a regulation for Best Management Practices (BMP) for individual recreational boat owners does not rise to the level of SAB attention. In response, an SAB member noted that scientific questions related to the effectiveness of potential BMP requirements is a major issue. Dr. Peter Chapman, the Work Group member who focused on this action, stated that although he considered this action as initially meriting action, the Work Group concluded that the expert workshop being planned by the agency would provide an appropriate amount and level of technical outside input on the science needed for this action. The SAB Chair noted that SAB members could participate in the workshop, or help identify speakers and topics to be addressed at the workshop. He asked any agency personnel present on the call to provide an update on the workshop during the time for clarifying comments noted on the agenda.

An SAB member then asked a general question regarding how the SAB can and will follow up on planned actions discussed in the context of reviewing the regulatory agenda. Many of the discussions depend on the agency's characterization of planned actions at a particular point in time. The SAB Chair responded that the SAB disposition of recommendations regarding planned actions concern only actions to be taken by the Board at a given point in time. Some of those dispositions indicate that the SAB is waiting for a variety of things to happen before deciding to take action, for example, waiting for: a proposed rule to be published; action from other organizations; or the outcome of SAB peer reviews underway, such as the SAB's peer review of ORD's 2013 draft report on the *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence*, which underlies the EPA's proposed Waters of the United States Rule.

---

\* Following the teleconference Mr. Carpenter provided the following information. Action 2050-AG74, Additions to List Section 241.4 Categorical Non-waste Fuels, was published as a proposed rule in the Federal Register on April 14, 2014 the proposed rule was published in the Federal Register and the docket for the rule was made available to the public. EPA compiled information on contaminants in creosote-treated railroad ties by several petitioners and compared contaminant data to information on traditional fuels (e.g., biomass (including wood) and fuel oil) obtained from EPA databases and literature sources. Dr. Kristina Mena reviewed these data and reported to the Work Group that the EPA appropriately investigated contaminants found in creosote-treated railroad ties with traditional fuels. The proposed rule requires that creosote-treated railroad ties only be combusted in units designed to burn both biomass and fuel oil. This information is available on Regulations.gov (<http://www.regulations.gov>) in Docket EPA-HQ-RCRA-2013-0110.

The SAB then continued to discuss the other recommendations from the Work Group.

Regarding planned action 2060-AS16, Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, the SAB Chair asked whether the Work Group took any special note that a report from the National Research Council Board on Energy and Environmental Systems on the science associated with this action was anticipated this year. That NRC Board conducts ongoing review of science associated with the EPA's Greenhouse Gas Emissions and Fuel Efficiency Standards. Dr. Mihelcic responded that the Work Group primarily considered that the EPA's plans for peer review of the Greenhouse Gas Emissions Model were adequate and did know that a National Academy of Science report was forthcoming.

Regarding planned action 2060-AR88, Standards of Performance for Greenhouse Gas Emissions from Modified Sources: Electric Utility Generating Units, there were several questions about the relationship of this action to other greenhouse gas regulations being developed by the agency. The SAB Chair clarified that the Board had considered two previous greenhouse gas actions at a public meeting in December 2013 and a public teleconference in January 2014. For the action 2060-AR33, Greenhouse Gas New Source Performance Standard for Electric Generating Units-Emission Guidelines for Existing Sources, the chartered SAB had accepted the Work Group recommendation that no further SAB consideration was merited. For the action 2060-AQ91, Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generation Units, the chartered SAB decided that no further SAB consideration was merited on this specific action, but that the SAB would follow up with the agency to better understand the scientific basis for agency decisions related to carbon sequestration.

Members asked several other questions and made several comments. One noted the importance of societal impacts of the EPA's proposed actions. Another member asked whether the proposed action 2060-AR88 specified a level of carbon dioxide per megawatt hour. Dr. Mihelcic responded that the action under discussion anticipated a technology-based standard, not a set numerical criteria. The SAB Chair asked whether the technical documents and related peer review informing the EPA's planned action were publicly available. Mr. Thomas Carpenter noted that the documents were available. Dr. Allen asked that links to those documents be made part of the record for the chartered SAB's deliberations at the teleconference. Following the call, Mr. Kevin Culligan from the EPA's Office of Air and Radiation provided the required references.<sup>†</sup>

### **Clarifying comments from the EPA**

Ms. Sandy Evalenko from the EPA's Office of Water informed the SAB that the EPA has not made resources available in 2014 for the workshop being planned to inform planned action 2040-AF03, Development of Best Management Practices for Recreational Boats under § 312(o) of the Clean Water Act. The EPA is planning to hold the workshop in 2015 or 2016.

---

<sup>†</sup> On June 25, 2014, Mr. Kevin Culligan indicated that two sets of documents from the National Energy Technology Laboratory were used in the development of action 2060-AR88: (1) Energy Analyses; Cost and Performance Baselines for Fossil Energy Plants, available at [http://www.alrc.doe.gov/energy-analyses/baseline\\_studies.html](http://www.alrc.doe.gov/energy-analyses/baseline_studies.html) and (2) Cost and Performance of PC and IGCC Plants for a Range of Carbon Dioxide Capture, available at <http://netl.doe.gov/research/energy-analysis/publications/details?pub=fabd3a08-896b-4b26-aabe-483594cd7e91>.

Mr. Kevin Culligan, from the EPA's Office of Air and Radiation informed the SAB that action 2060-AR88, Standards of Performance for Greenhouse Gas Emissions from Modified Sources: Electric Utility Generating Units, had been signed by the Administrator on June 2, 2014 and released to the public. Technical documents supporting this proposed action have been available to the public.

### **Disposition of Work Group Recommendations**

The SAB Chair asked for a motion for each action.

Regarding planned action 2060-AS16, Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, Dr. Allen moved that Board take no additional action on this planned regulatory action at this time and note the ongoing review by the National Research Council. Dr. James Opaluch seconded the motion. There was no discussion. The motion was accepted unanimously with none abstaining.

Regarding planned action 2050-AG74, Additions to List Section 241.4 Categorical Non-waste Fuels, Dr. Allen moved that the Board take no additional Board action at this time beyond providing information in the meeting minutes about the Work Group's May 13, 2013 recommendations memorandum. Dr. Kimberly Jones seconded this motion. There was no discussion. The motion was accepted unanimously with none abstaining.

Regarding planned action 2050-AG77, Hazardous Waste Export-Import Revisions Rule, Dr. Allen moved that the Board take no additional Board action at this time beyond providing information in the meeting minutes about the Work Group's May 13, 2013 recommendations memorandum. Dr. Peter Thorne seconded this motion. There was no discussion. The motion was accepted unanimously with none abstaining.

Regarding planned action 2040-AF03, Development of Best Management Practices for Recreational Boats under § 312(o) of the Clean Water Act, Dr. Allen took note of the EPA comment that the agency is not planning the workshop in 2014 because resources are not available. Dr. Allen moved that the EPA SAB Staff Office initiate discussions with the agency about the SAB organizing an expert workshop on this topic and involve interested board members, who would self-identify, to form a work group to help organize the Board's activities in this area. Dr. Michael Dourson seconded the motion. There was Board discussion. A member questioned whether an expert workshop was the best way to get relevant science to the agency and translated into policy. A Board member noted the importance of the Work Group's ranking of this action as high on many criteria and asked whether the motion should be reframed. Another Board member noted the possibility of industry and nongovernmental organizations supporting and helping to fund a needed workshop.

Dr. Allen amended the motion in the following way: he moved that the EPA SAB Staff Office work with a Work Group composed of interested Board Members to initiate discussions with the EPA about follow-up activities related to the science informing this planned action. Dr. James Opaluch seconded this motion. The motion was accepted unanimously with none abstaining. The SAB Chair asked members to contact Dr. Nugent if they wished to be involved in the work group. Dr. Allen noted that the SAB would discuss this topic at the next available Board meeting.

Regarding planned action 2060-AR88, Standards of Performance for Greenhouse Gas Emissions from Modified Sources: Electric Utility Generating Units, Dr. Allen moved that the Board take no additional Board action at this time beyond including information about the availability of the National Energy Technology Laboratory's technical documents in the minutes of this chartered SAB teleconference.<sup>‡</sup> Dr. Taylor Eighmy seconded this motion. There was no discussion. The motion was accepted unanimously with one member, Dr. Michael Dourson, abstaining.

### **Brief discussion of plans for upcoming meeting of the chartered SAB**

The DFO, Dr. Angela Nugent, stated that the chartered SAB will be holding a joint public meeting, at the request of the Office of Research and Development (ORD), with ORD's Board of Scientific Counselors on July 24-25, 2014, in Washington, DC. Teleconferences to help prepare for the meeting are being planned and will be announced in the *Federal Register*. Additional information for members about preparations for these sessions will be forthcoming.

The teleconference was adjourned at 12:52 p.m.

Respectfully Submitted,

*/Signed/*

Dr. Angela Nugent  
SAB Designated Federal Officer

Certified as Accurate,

*/Signed/*

Dr. David T. Allen  
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.

---

<sup>‡</sup> Mr. Kevin Culligan of the SAB Staff informed the SAB Staff on June 23, 2014 that the website <http://www.netl.doe.gov/research/energy-analysis/energy-baseline-studies> listed the studies that the EPA considered when it evaluated whether carbon capture and should be considered BSER for modified, reconstructed and existing units.

**Attachment A: Members of the public attending the public teleconference:**

Doug Austin, Institute of Clean Air Companies  
Robin Bravender, Environment & Energy Publishing, LLC  
William Charmley, EPA  
Kevin Culligan, EPA  
Sandy Evalenko, EPA  
Robert Fegley, EPA  
Caroline Hardie, Environment Canada  
Ben Hecht, EPA  
Maria Hegstad, Inside EPA  
Mindy Lemus, Edison Electric Institute  
Carl Mazza, Carl, EPA  
Jessica Reiss, Global Solutions Practice  
Pat Rizzuto, BNA  
Tara Rothschild, Committee on Energy and Commerce  
Patsy Root, IDEXX  
Amina Salyed, BNA  
Kathryn Sargeant, EPA  
Stephen Silverman, EPA

### **Materials Cited**

The following meeting materials are available on the SAB Web site,  
<http://www.epa.gov/sab>, at the page for the [June 11, 2014 teleconference](#) :  
<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/177ad6ad17fe9fd585257cd0005bdc3c!OpenDocument&Date=2014-06-11>

---

<sup>1</sup> Roster of SAB members

<sup>2</sup> Agenda

<sup>3</sup> May 13, 2014 Memorandum from the SAB Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science with recommendations for chartered SAB consideration.