

**U.S. Environmental Protection Agency (EPA)  
Science Advisory Board**

**Summary Minutes of the Public Meeting held on:  
September 15, 2020**

**Meeting Participants:**

Chartered Science Advisory Board (SAB) Members:

Dr. Michael Honeycutt, Chair	Dr. Robert E. Mace
Dr. Rodney Andrews	Dr. Clyde F. Martin
Dr. Hugh A. Barton	Dr. Sue Marty
Dr. Barbara Beck	Mr. Robert W. Merritt
Dr. Deborah Hall Bennett	Dr. Larry Monroe
Dr. Frederick Bernthal	Dr. Thomas F. Parkerton
Dr. Robert Blanz	Dr. Robert Phalen
Dr. Todd Brewer	Dr. Tara L. Sabo-Attwood
Dr. Joel G. Burken	Dr. Mara Seeley
Dr. John R. Christy	Dr. Richard Smith
Dr. Samuel Cohen	Dr. Jay Turner
Dr. Louis Anthony (Tony) Cox, Jr	Dr. Brant Ulsh
Dr. Alison C. Cullen	Dr. Donald van der Vaart
Dr. Otto C. Doering III	Mrs. Carrie Vollmer-Sanders
Dr. Susan P. Felter	Dr. Kimberly White
Dr. Joseph A. Gardella	Dr. Mark Wiesner
Dr. John D. Graham	Dr. Peter J. Wilcoxon
Dr. John Guckenheimer	Dr. Richard A. Williams
	Dr. S. Stanley Young

SAB Staff Office:

Mr. Thomas Brennan, EPA, Director of SAB Staff Office  
Dr. Thomas Armitage, EPA, Designated Federal Officer (DFO) for the Chartered SAB  
Dr. Holly Stallworth, EPA, Designated Federal Officer (DFO)

Other Attendees:

See Attachment A.

**Meeting Summary:**

Convene the Meeting

The Chartered Science Advisory Board (SAB) held a public meeting on September 15, 2020 to discuss the SAB draft report on the EPA proposed rule titled *Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process*. The Designated Federal Officer, Dr. Thomas Armitage, convened the meeting and noted that the

SAB was meeting remotely by video conference to discuss its draft report on the Agency's proposed rule.<sup>1</sup> Dr. Armitage provided introductory remarks in his capacity as DFO. He stated that the SAB is an independent Federal Advisory Committee chartered under the Federal Advisory Committee Act (FACA). He noted that the SAB is empowered by law to provide scientific and technical advice to the EPA Administrator and that the SAB meetings and deliberations are conducted in accordance with the requirements of FACA. Dr. Armitage indicated that the SAB Staff Office had determined that the members of the Chartered SAB were in compliance with ethics requirements. Dr. Armitage indicated that summary minutes of the meeting would be prepared and certified by the SAB Chair following the meeting.

Dr. Armitage indicated that all meeting materials were available on the SAB website. These meeting materials included: a Federal Register Notice announcing the meeting,<sup>2</sup> the meeting agenda,<sup>3</sup> and SAB roster.<sup>4</sup> Dr. Armitage noted that, as required by FACA, time had been included on the meeting agenda to hear public comments and that requests to speak had been received from seven individuals.<sup>5</sup> In addition, Dr. Armitage noted that written public comments had been received, posted on the SAB website, and made available to SAB members. Dr. Armitage also indicated that public access to the meeting had been provided through a telephone conference line and a video webcast. Dr. Armitage conducted roll call of participating Board members. It was noted that SAB member Dr. Anne Smith had recused herself from participating in the meeting because of potential conflict of interest regarding review of the proposed rule.

Mr. Thomas Brennan, Director of the SAB Staff Office, thanked members of the Board for their commitment and hard work to review the proposed rule and expressed gratitude to the three members of the SAB who were concluding their terms on the Board at the end of September 2020. The three members were Dr. Larry Monroe, Dr. Peter Wilcoxon, and the Board Chair Dr. Michael Honeycutt. Mr. Brennan indicated that a new chair would be appointed in October 2020 and that the EPA was very grateful to Dr. Honeycutt for his work as Chair for the last three years.

#### Purpose of the Meeting and Review of the Agenda

Dr. Michael Honeycutt, Chair of the EPA Science Advisory Board welcomed SAB members, EPA Staff, and other attendees to the meeting. He indicated the SAB was holding the meeting to discuss a draft report that had been developed by workgroups of the Board. He noted that the draft report provided SAB advice and comments on the scientific and technical basis of the proposed rule, *Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process*.<sup>6</sup> Dr. Honeycutt noted that the SAB had reviewed the proposed rule in accordance with the requirements of the Environmental Research, Development, and Demonstration Authorization Act (ERDDAA) which required that proposed rules be made available to the SAB for review. He also noted that the SAB review focused on the scientific and technical basis of the proposed rule.

Dr. Honeycutt reviewed the meeting agenda, and asked registered public speakers to limit their comments to three minutes. He indicated that there would also be time for questions from members of the Board. Dr. Honeycutt noted that that the list of registered public speakers was posted on the SAB website and that each speaker would be called in order of that list. Dr.

Honeycutt indicated that he wanted to reach consensus on the report at the meeting but stated that if the Board could not reach agreement on a particular point, a dissenting opinion could be included in the report.

### Public Comments

The SAB heard public comments from seven registered speakers.

*Max Sarinsky, Institute for Policy Integrity, New York University School of Law*

Max Sarinsky, affiliated with the Institute for Policy Integrity, New York University School of Law, noted the Board's criticism of parts of the proposed rule and encouraged the Board to strengthen its comments regarding the importance of addressing less-than-certain impacts and unquantified benefits. In addition, he recommended the SAB explain that the proposed rule breaks from best practices and recommended that the SAB comment more directly on the inconsistent treatment of cost and benefit. He noted that giving less weight to co-benefits than indirect costs would violate executive guidance and judicial precedence. Mr. Sarinsky also recommended that the SAB remove a reference in its report to only "domestic" interests. The Institute for Policy Integrity provided two sets of written comments to the SAB prior to the meeting.

*Roy Gamse*

Roy Gamse, a previous EPA Deputy Assistant Administrator who had been involved in overseeing the Agency's regulation development process and the economic analyses used in regulation development, stated that the proposed rule was not required by the Clean Air Act. Mr. Gamse referred to the extensive documents that provided guidance on conducting economic analyses. He noted that these included OMB Circular A-4 and the current economic guidelines document that was being updated by EPA and reviewed by an SAB panel chaired by Dr. John Graham. Mr. Gamse indicated he was of the opinion that the proposed rule was not needed and that the motivation for developing it was to restrict future Administrators. He stated that the EPA was wasting resources and asked the Board to inform the current Administrator that the rule would unnecessarily increase regulation.

*Hayden Hashimoto, Clean Air Task Force*

Hayden Hashimoto, an attorney with the Clean Air Task Force, reiterated his previous comments provided at the SAB meeting held on August 11, 2020. He indicated that the EPA's proposal threatened to subvert the Agency's mission to protect human health and the environment. Mr. Hashimoto indicated that the EPA was capable of acting in a transparent manner with existing guideline documents. He urged the SAB to recommend that EPA publish additional guidance or update existing guidance instead of finalizing the proposed rule. Mr. Hashimoto agreed with statements in the SAB's draft report indicating that the proposed rule departed from best practices and requesting that the EPA expand, verify, or clarify various aspects of the rule. However, Mr. Hashimoto acknowledged that these recommendations would require extensive changes in the rule. Mr. Hashimoto stated that there was no statutory mandate for the rule and

indicated that the SAB should recommend EPA withdraw its proposal. Mr. Hashimoto thanked the SAB for its efforts to develop the draft report.

SAB Member Dr. Richard Smith questioned Mr. Hashimoto on whether the SAB was permitted to request that EPA withdraw the proposed rule. Mr. Hashimoto responded that in his opinion, the SAB had the discretion to recommend withdrawal of the proposed rule because there was no legal mandate and no substantive policy to require it.

*Kevin Bromberg, Bromberg Regulatory Strategy*

Kevin Bromberg introduced himself as a consultant specializing in environmental regulatory issues and recently retired from federal service. Mr. Bromberg commented that there was a clear need for the proposed rule to establish standards and requirements for benefit-cost analysis (BCA). He commended the SAB for its draft report and thanked the SAB for the opportunity to provide comments.

SAB Member Dr. Robert Phalen raised the issue of unintended health consequences of regulations (i.e., loss of jobs and inadvertently increasing air concentration of other air pollutants). He asked if the EPA could take into account the net adverse health effects of a regulation. Mr. Bromberg responded, indicating that the SAB should lay out best practices.

*Nicholas Chartres, Program on Reproductive Health and the Environment, University of California, San Francisco*

Nicholas Chartres, University of California, San Francisco, expressed support for the SAB's comments and recommendations concerning systematic review. He also supported the SAB recommendations concerning the need for greater clarity in parts of the rule. He requested the SAB recommend the Agency add predefined terms to the rule and recommended that EPA quantify all health affects with some evidence of relationship.

*Daren Bakst, Heritage Foundation*

Daren Bakst, a senior research fellow at the Heritage Foundation, indicated that the views expressed were his own and that he was not representing the Heritage Foundation. Mr. Bakst expressed support for the proposed rule and emphasized the importance of ensuring Agency compliance with the rule. He noted that the large number of rules developed by EPA's Office of Air and Radiation underscored the importance of the proposal.

*Dena Adler, Environmental Defense Fund*

Dena Alder, a legal fellow at the Environmental Defense Fund, urged the EPA to withdraw the proposed rule stating it could distort the assessment of benefits and costs of all future significant Clean Air Act protections. Ms. Adler expressed the opinion that the rule would negatively impact public health, and that communities of color and low-income communities would bear a higher burden of the negative impact. She expressed support for the SAB draft report; specifically, the noting of inconsistencies of the proposed rule with scientific best practices. Ms. Adler

encouraged the SAB to clearly indicate that co-benefits must be taken into account. She indicated that it was the opinion of Environmental Defense Fund that the proposed rule would restrict the Agency. Written comments were submitted to the SAB reflecting the stance of the Environmental Defense Fund.

### EPA Remarks

Dr. Honeycutt thanked the members of the public for their comments and stated that before discussing its draft report, the Board would hear remarks from Dr. Elizabeth Kopits, Senior Economist with EPA's National Center for Environmental Economics. Dr. Kopits provided introductory remarks. She expressed appreciation to the Board for its findings and recommendations as the agency developed the final rule. Dr. Kopits reiterated the importance of the Board's review of the Agency's revised guidelines for conducting economic analyses. She noted that the guidelines were currently undergoing a periodic update and this revision was being reviewed by the SAB. Dr. Kopits emphasized the importance of timely delivery of SAB's review of the revised guidelines in order to allow consistency between the proposed rule and the revised guidelines.

SAB members asked questions. A member inquired how the co-benefits of the PM2.5 rule would be handled under the requirements of the proposed rule. He asked the EPA to characterize the proposed rule's effect on that kind of analysis. Dr. Kopits indicated that the proposed rule would require that a full BCA be completed in accordance with best practices. Dr. Al. McGartland, Director of EPA's National Center for Environmental Economics discussed how benefits above and below National Ambient Air Quality Standards (NAAQS) were considered. Mr. McGartland stated that best practices were currently being used by the EPA, but these were not all specifically addressed in the proposed rule. In response to a question about why the proposed rule was needed, Dr. Kopits stated the main purpose was to codify best practices already required under guidance and ensure consistency and transparency going forward.

### SAB Discussion

Dr. Honeycutt thanked EPA staff for their remarks and called for SAB discussion of the draft report. He noted that the draft report had been developed by four SAB workgroups that had focused on specific sections of the proposed rule. He indicated that a lead writer for each workgroup had been asked to develop report text. He asked the lead writers summarize their sections of the draft report. Before hearing from the lead writers, Dr. Honeycutt stressed the importance of reaching agreement at the meeting on any substantive changes to be made in the SAB report. He noted that once the Board reached agreement on changes, he could work with the DFOs (Drs. Armitage and Stallworth) after the meeting to incorporate specific revisions that reflected the changes discussed. He also asked that SAB members submit any editorial changes to the DFOs after the meeting.

*Discussion of the Findings and Recommendations Concerning Section 83.1 of the Proposed Rule – Definitions*

SAB member Dr. Richard Williams summarized two recommendations in the draft report that pertained to the definitions section of the proposed rule. These recommendations focused on changes in the definition of BCA and regulatory options. Dr. Williams stated that BCA provided decision makers with a clear indication of the most efficient alternative, derived from OMB Circular A-4. He defined costs as opportunity costs. Dr. Williams elaborated on the definition of benefits, indicating that they represented the willingness to pay for a policy outcome by citizens of the United States. Additionally, he noted that the BCA addressed a Kaldor Hicks principle indicating that the people who gained could compensate those who lost.

The second recommendation summarized by Dr. Williams focused on regulatory options. Dr. Williams stated that in the proposed rule a distinction should be made between BCA and Cost-Effectiveness Analysis. He noted that the workgroup had recommended phrasing to indicate that a less stringent option would “contribute,” rather than “accomplish,” distinguishing the BCA from Cost-Effectiveness Analysis.

SAB members commented on the definitions in the proposed rule. A member questioned whether the rule was consistent with EPA’s guidelines with regard to willingness to pay. The member indicated that the rule should be less prescriptive than the guidelines. Dr. Kopits read from the current draft of the guidelines being reviewed by the SAB and indicated that the rule was less prescriptive. Another member expressed concern that the proposed rule did not address the cost of job loss. The member asked whether the definition of BCA could include analysis of the full cost to the community. Dr. Williams noted that the Agency considered the cost of job loss. Dr. McGartland indicated that the EPA’s guidelines for economic analysis provided guidance in that area and the EPA followed that guidance. An SAB member offered to provide literature on the topic of assessing the impact of job loss on health of the community. A few members of the SAB discussed the need for additional technical detail on the theory supporting BCA but members agreed it was not necessary to include this information in the SAB report. A member suggested that foundational issues related to compensation criteria be included in the SAB report as a footnote.

*Discussion of the Findings and Recommendations Concerning Section 83.3(a)(7) of the Proposed Rule – Estimating Benefits*

SAB member Dr. Hugh Barton summarized the recommendations in the SAB draft report pertaining to Section 83.3(a)(7) of the proposed rule. This section addressed estimating benefits. Dr. Barton summarized recommendations addressing four issues:

1. Systematic review should be supported in the rule.
2. How to address hazardous air pollutants (i.e., no one analysis works).
3. Consideration of relationships that are likely causal.
4. How to reference existing guidance on best practices, partly relating to the work being done in EPA’s IRIS program, and systematic review.

SAB members discussed the recommendations concerning Section 83.3(a)(7) of the proposed rule. A member agreed with the report text developed by the workgroup. He requested a wording change to reflect his agreement with points made rather than a dissenting view.

A member suggested that the SAB recommend EPA consider possibly causal relationships where feasible. Another member applauded the workgroup's effort to identify the flaws in the rule but questioned whether the rule was actually needed. Dr. Honeycutt indicated that determining whether the rule was needed was a policy question. This view was supported by several other SAB members. Members commented that parts of the rule were confusing and could not be implemented as written. Members suggested including an overarching statement in the SAB report to recommend that EPA clarify how specific requirements in the rule aligned with what was provided in EPA's guidance. A member noted that the Agency may not want to include specific references to its guidance in the rule, but that may be necessary in order to avoid conflict with the guidance document. Several other SAB members agreed with these comments. It was agreed that Dr. Honeycutt and the DFOs would work on drafting a statement to be included in the letter to the Administrator regarding concern that parts of the rule were too specific and that the Agency needed to point to best practices and make judgement calls on the level of technical detail in the rule versus the Agency's guidelines for economic analysis.

A member observed that 4,000-6,000 papers were published each year on systematic review and meta-analysis. He expressed the opinion that the EPA should be able to use these reviews and noted that the guidance on how to use the information was readily available.

A member commented that the SAB should recommend that the EPA continue to monitor comments from the National Academy of Sciences (NAS) to ensure the Agency was following the most up-to-date processes for estimating benefits. Members discussed the need for formal proof of causality. A member suggested removing a statement in the report indicating that a weight of evidence approach was "less convincing than formal proof of causality but is accepted by many epidemiologists." Other members indicated that the statement was appropriate in context. A member suggested revising the statement to indicate that the weight of evidence approach "is accepted by many scientists." Alternatively, a member suggested including specific references concerning weight of evidence and formal causality assessments. A member said he would provide these references. Another member identified a section of the draft report that implied a need to assign causality. Members agreed to reword the section to imply that mode of action is relevant and not a pre-requisite. Dr. Honeycutt asked that members send revised text to Dr. Armitage.

SAB Staff Office Director Mr. Thomas Brennan addressed the Board on the need to ensure that the proposed rule was complementary and not contradictory to EPA's guidelines for economic analysis. He assured them that a draft report on EPA's revised guidelines for economic analysis had been developed by the SAB panel that was working to review the guidelines. He indicated that when a Federal Register notice announcing a Board meeting to review the Panel's report was published, the draft Panel report would be shared with the Chartered SAB for quality review.

*Discussion of the Findings and Recommendations Concerning Section 83.3(a)(9) of the Proposed Rule - Health Endpoints*

SAB member Dr. Kimberly White summarized the recommendations in the SAB draft report pertaining to Section 83.3(a)(9) of the proposed rule. She noted that there was a great amount of specificity in the proposed rule but parts of the rule lacked sufficient rationale regarding the actual scientific basis for some of the requirements. She also stated there was vague or limited information provided in the rule on how requirements might be applied. As an example, Dr. White indicated that it was not clear whether the EPA would ensure consistency with some of the Agency's best practices. Dr. White highlighted three of the recommendations in the SAB draft report:

1. EPA should include a definition for what "appropriately matched" means with regard to study location.
2. EPA should define what "strongest evidence" would be regarding clearly identifying concentration response functions.
3. EPA should define what attributes affect the suitability of a study or model for performing a risk assessment.

The SAB discussed Section 83.3(a)(9) of the proposed rule and the recommendations in the SAB draft report. A member suggested a change in terminology on page 11 of the SAB draft report – replacing scientific judgement with scientific evidence. Members agreed with this change. A member suggested removing a sentence in the report indicating that "...it is hard to imagine an epidemiological study that does not consider the effect of potential confounders..." Members commented that that the vast majority of epidemiological studies fit this criterion but not all. A member suggested changing the wording to state that "...the vast majority of epidemiological studies do consider the effect of potential cofounders ..." Members expressed agreement with this change. A member suggested a minor editorial modification to remove the words "provide suggested systematic review approaches" on page 12, line 24 since this was covered later in the sentence.

A member suggested that the words "such as biological plausibility" on page 10 line 6 be edited (to be more specific) or removed. Members recommended adding EPA's guidelines for economic analysis or another publication as a reference. A member questioned whether Section 83.3(a)(9) of the proposed rule limited or promoted the EPA's valuing of reductions either above or below the NAAQS, or if it impacted the Agency's ability to value reductions below the NAAQS. Dr. Honeycutt responded that it did not appear to limit or promote valuing reductions above or below the NAAQS. Mr. McGartland verified that the rule was silent on the issue.

*Discussion of the Findings and Recommendations Concerning Section 83.3(a)(10) of the Proposed Rule -Characterizing Uncertainty*

SAB member Dr. Peter Wilcoxon summarized the findings and recommendations in the SAB draft report pertaining to Section 83.3(a)(10) of the proposed rule. He indicated that the findings and recommendations addressed two kinds of issues:

1. Where the EPA had taken an overly narrow view on how it used uncertainty analysis.
2. Where the proposed rule had been overly prescriptive or rigid in its approach.

Dr. Wilcoxon indicated that the workgroup had suggested expanding the rule preamble to discuss value of information analysis and also focus on future scientific research. He noted that these changes were needed to address the issue of maintaining an overly narrow view. Dr. Wilcoxon expressed the workgroup's concern that EPA's procedure for characterizing uncertainty tended to focus on expected value results for quantifiable benefits, which was a narrow use of uncertainty analysis. Additionally, Dr. Wilcoxon stated that unquantified benefits were omitted by only looking at expected values. He noted that this departed from best practices. He indicated that the workgroup had suggested the Agency adjust the text of the rule to allow analysts to decide how intense the uncertainty analysis needed to be, given the context.

SAB members discussed the draft report and expressed support for the recommendations summarized by Dr. Wilcoxon. A member questioned whether the letter to the Administrator in the SAB draft report adequately stressed the need to do more uncertainty analysis when necessary but also back away from doing it when not necessary. Dr. Wilcoxon agreed to send revised language to Dr. Honeycutt to address this comment. Dr. Wilcoxon said it was important to keep BCA from being a "point and click" policy making action. In this regard he suggested including wording in the SAB draft report to indicate that BCA was a tool to helping policy makers understand the consequences of their decisions, and not a rule indicating that actions should be taken when an expected value was positive.

#### *Disposition of the Draft Report*

Dr. Honeycutt thanked SAB members for discussing the draft report and called for a vote on disposition of the report. A motion was made to approve the report with changes discussed. The Board voted unanimously to approve the report with the with changes discussed.

#### Summary and Next Steps to Complete the SAB Report

Dr. Honeycutt summarized the next steps to complete the SAB report. He indicated that the report would be revised as discussed and sent to the SAB for final concurrence. Dr. Honeycutt listed the following changes to be made and asked SAB members to provide revised text for the report:

- Dr. Cox will provide a footnote for the definitions.
- Dr. Honeycutt and DFOs will create an overarching statement on issues regarding specificity of rule vs. guidelines and make sure best practices are not contradicted.
- Dr. Bennett will include an addition on page 4 to first full paragraph on EPA keeping up with guidance from NAS and other groups on systematic review.
- Dr. Cox will edit a sentence on page 7 and provide citations.
- Drs. White and Honeycutt will address SAB comments regarding mode of action on page 11, 3<sup>rd</sup> bullet.
- Dr. White will add a reference for other factors on page 10, line 6.

- Dr. Wilcoxon will revise a bullet in the Administrator’s letter characterizing uncertainty analysis.
- Drs. Wilcoxon and Honeycutt and DFOs will work on wording to convey the point that BCA is a tool and not to be used for policy makers as a yes/no mechanism.
- Dr. Beck will modify section 2.2.4.
- Dr. White will provide two additional edits/modifications.

Dr. Honeycutt asked all members to send any additional edits needed to the DFOs (Drs. Armitage and Stallworth). Dr. Doering offered to draft a statement to be included at the beginning of the letter to indicate that the SAB finds if the rule goes forward without changes it would be detrimental to good science. The statement would also indicate that the specific recommendations from the SAB are of high importance. Dr. Graham disagreed with the tone of the statement suggested by Dr. Doering and suggested it be one of positivity. He suggested the letter state that if the rule is implemented as currently written it could be problematic but if the SAB’s technical suggestions are addressed the rule will be more defensible and constructive. Dr. Honeycutt looked for consensus on Dr. Graham’s tone and wording. The SAB agreed to the language. Dr. Honeycutt made a final call for comments from the SAB. He emphasized the need to complete the report by the end of September and instructed the SAB members to send any additional comments to the DFOs by Monday the 21<sup>st</sup> of September.

Adjourn Meeting

Dr. Armitage adjourned the meeting at approximately 4:15 p.m. (Eastern Time).

Respectfully Submitted:

Certified as Accurate:

/s/

/s/

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 Dr. Thomas Armitage  
 Designated Federal Officer

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 Dr. Michael Honeycutt  
 Chartered SAB Chair

November 30, 2020  
 Date

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.

**Appendix A: Additional participants (who participated in the meeting via video conference, viewed the meeting via webcast, or the requested the call-in number to listen via telephone)**

<b>Name</b>	<b>Affiliation</b>
Dena Adler	Environmental Defense Fund
Daniel Axelrad	EPA
David Bael	Minnesota Pollution Control Agency
Daren Bakst	Heritage Foundation
Dave Bielen	EPA
Kevin Bromberg	Bromberg Regulatory Strategy
Elizabeth Chan	EPA
Nicholas Chartres	Program on Reproductive Health and the Environment, University of California, San Francisco
Chris Dockins	EPA
Steven Dutton	EPA
David Evans	EPA
Neal Fann	EPA
Allen Fawcett	EPA
Zaida Figueroa	EPA
Lynn Flowers	EPA
Timothy French	Truck and Engine Manufacturers Association
Roy Gamse	
Charles Griffiths	EPA
Alex Guillen	Politico
Hayden Hashimoto	Clean Air Task Force
Sophia Hill	M.J. Bradley
Leif Hockstad	EPA
Elke Hodsonmarten	OMB
Khanna Johnston	EPA
Brian Kettl	
Carolyn Kilgore	EPA
Elizabeth Kopits	EPA
Amy Lamson	EPA
Alex Martin	EPA
Al McGartland	EPA
Lori Miyasato	California Air Resources Board
Jon Monger	U.S. House of Representatives Committee on Energy and Commerce
Barbara Morin	NESCAUM
Ken Munis	EPA
Paul Noe	American Forest and Paper Association
Doug Obey	Inside EPA
Kelley Raymond	EPA
Allison Rohrs	

<b>Name</b>	<b>Affiliation</b>
Amena Saiyid	Bloomberg Industry Group
Max Sarinsky	Institute for Policy Integrity, New York University School of Law
Darryl Weatherhead	EPA
Chad Whitman	U.S. Chamber of Commerce
Linda Wilson	New York State Office of Attorney General
Daniel Yarbrough	EPA

## Materials Cited:

All meeting materials are available on the SAB website (<http://www.epa.gov/sab>) at the page for the September 15, 2020 meeting. The direct web link is:

<https://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/d2670286febfe78e852585ac004cd21a!OpenDocument&Date=2020-09-15>

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<sup>1</sup> SAB Draft Report on EPA's Proposed Benefit-Cost Rule

<sup>2</sup> Federal Register Notice Announcing the Meeting

<sup>3</sup> Agenda

<sup>4</sup> SAB Roster

<sup>5</sup> Registered Public Speakers

<sup>6</sup> Proposed Rule Titled "Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process"