

Compilation of Member Comments on February 13, 2009 Draft Letter

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1. Dr. Robert Twiss

This is to offer our congratulations on your appointment and to take positive note of your testimony that: "... science must be the backbone of what EPA does". Since 1979, the Science Advisory Board (SAB) has provided independent advice to EPA Administrators on a wide range of scientific and technical topics, assisting EPA in improving its scientific assessments for decision making and its research programs. In recent years, it has become increasingly apparent that resource limitations and the existing institutional structure are compromising EPA's ability to successfully respond to the changing nature of environmental problems. It is our opinion that the Agency must transform itself if it is to surmount these barriers to change. Accordingly, as you begin your tenure at EPA, we wanted to take this opportunity to underscore key science needs, and respectfully offer the following recommendations:

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- Current and emerging problems facing our nation are cross-cutting, and EPA must increase efforts to address environmental problems in an integrated fashion across current media-specific programs.
- Solution of our most serious problems will require evolution of institutional and individual behavior; we must strengthen Research and operational capacity in the social sciences. The agency should take the lead in addressing the environmental and health implications of energy and climate change policies.
- EPA should consider new research models to overcome barriers that now limit development of knowledge of environmental problems and their solutions. [It is not clear to me what is intended here] • Despite the economic crisis, EPA should move to restore the budget for research and development in order to maintain international leadership of the US on environmental protection. -EPA should develop more robust partnerships with other agencies, industry, NGOs, universities, and the public, both within the US and internationally.

Today's environmental problems are clearly different and more complex than those of 30 years ago, and their solutions are even more challenging. Scientific advances and emerging technologies offer new opportunities for improving human welfare and the environment, but many also pose new risks and challenges. In its 1990 report "Reducing Risk: Setting Priorities and Strategies for Environmental Protection", the SAB recommended that EPA target opportunities for the greatest risk reduction. The SAB also pointed out that a stove-pipe approach to environmental protection, in large part due to the Agency's focus on media-specific environmental mandates and technologies that target specific pollutant sources, was no longer suited for use in addressing real world environmental problems.

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Our most important environmental problems involve multiple stressors interacting across a variety of media, which change over the temporal cycles of the activities. This gives rise to the problems themselves, as well as the manner in which we attempt their control. Thus, there is a critical need to evaluate and prioritize environmental problems in an integrated way, one that goes beyond current media-specific environmental programs. The SAB urges the Agency to re-establish its environmental priorities for the next five to ten years and to provide the necessary science and research to support and implement cross-media approaches. EPA also needs more highly integrated decision-making models that can be adapted for a range of decision contexts. Social sciences are critical to the design and implementation of these decision models and need to be an integral part of EPA's organization and structure.

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EPA's recent commitment to environmental sustainability and priority issues such as climate change, alternative energy, and energy security present the nation with a challenge and an opportunity to develop more integrated approaches to environmental protection. New, broad-reaching energy and climate change policies may bring unintended harm to ecosystems and to human health in addition to co-benefits. The EPA should be the nation's lead agency in analyzing the implications of energy and climate change policies and guiding the country to optimal strategies. However, EPA must reexamine its research program, its investments, and also explore innovative ways to conduct research and leverage funding. For example, NIH, NSF, DOE, and DARPA have all recently considered creative public-private partnerships and funding mechanisms that could be models for consideration by EPA. The SAB is prepared to assist the Administrator in the inventory and assessment of possible models. The SAB understands the challenges raised by the current state of the economy. EPA must commit to establishing a research base that will make it possible for the nation to acquire the knowledge needed to address the difficult environmental problems that we now face. Because resources are limited, it is imperative that EPA also take a leadership role, both within and outside of the federal government and especially in the international arena, and to develop new ways of partnering with stakeholders to achieve its mission.

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The SAB is pleased to welcome you as the new leader of the nation's environmental programs. We applaud your deep commitment to scientific integrity. We agree with your statement to EPA's employees that, the Agency must clearly articulate its policy judgments and actions to account for knowledge gaps and scientific uncertainties. We look forward to working with you in the future as the most critical environmental issues are addressed. Soon, the SAB intends to begin a project to develop explicit advice on how EPA can enhance its science program in order to address the integrated and complex environmental problems that confront the nation. We would be pleased to discuss this letter and our project to develop the longer term advisory whenever you are available.

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2. Dr. Meryl Karol

Overall, this is an excellent letter that clearly expresses SAB's concerns. However, as written, the last para on p.1 is confusing and redundant. The following edit is suggested.

...Because these issues involve multiple stressors interacting across a variety of media, ~~and which change— over the temporal cycles of the activities giving rise to the problems as well as the manner in which we attempt their control, there is a critical need to evaluate and prioritize environmental problems in an integrated way that goes beyond current media-specific environmental programs.~~ The SAB urges the Agency to establish its environmental priorities for the next five to ten years and to provide the necessary science and research to support and implement cross-media approaches to protecting human health and the environment. EPA also needs more highly integrated decision-making models that can be adapted for a range of decision contexts. Social sciences are critical to the design and implementation of these decision models and need to be an integral part of EPA's organization and structure.

3. Dr. Bernd Kahn

First, minor corrections:

p.1, 1.17: Move 'successfully' behind 'respond'.

p.2, 1.32: Change 'note' to 'notes'.

p.2, 1.37: Delete comma after 'letter'.

Second, The letter is very good, but vague. Could we mention a specific problem related to air or water quality or quantity protection that SAB is addressing for which advice would be welcomed by EPA?

Second Comment (3-4-09):

In re-reading the letter, its theme of advice on re-structuring the Agency for more effective responses and offering SAB to develop explicit guidance seems wise, but emphasizing its applicability to the nation's major concerns of energy independence, global warming, economic recovery, and environmental sustainability – essentially moving the third paragraph to the front – could make the letter more effective. Moreover, we can offer SAB as a resource for directly supporting EPA Administrator advice to the President in quantifying the environmental impacts when combining multiple responses to these concerns to minimize environmental hazard, and to develop the regulations that define acceptable risk in air and water. For example, efforts for energy independence will consider a mix of, among others, increased coal mining, oil drilling, nuclear power plant construction, vegetation (e.g., corn) growth and processing, oil shale recovery, solar energy, and wind fields, each with its benefits, problems, and limitations. In essence, the letter can

indicate that effective responses can be based on a better organization but also the SAB pool of competence and knowledge.

4. Dr. Rogene Henderson:

I am grateful to those who developed this draft and think it is appropriate that we "introduce" SAB to the new Administrator. My overall comment is that the letter could be much more concise and carry more punch. My specific comments follow.

First paragraph: This seems to have 2 points: 1) hi, we are pleased to work with you, and 2) you don't have enough money to do what should be done. The sentences switch back and forth between the two ideas. I suggest eliminating the second point and use the first paragraph to say we are pleased to continue to serve the Agency and we are "delighted" at the words in her testimony. This would involve deleting sentences 2 and 3 and using a little word-smithing to connect sentence 1 to sentence 4.

Six bullets: Are these listed in any priority? I think they should be. I would place bullets 1,3 and 5 at the top of the list. Bullet 4 is not clear. The term "new research models" has no meaning unless an example is given. Bullet 6 is also not clear. Partnerships with whom??? I think it refers to the public/private partnerships discussed on the next page, but it is not clearly presented in this bullet. Here and on the next page, we need to recognize that the EPA already has some public/private partnerships such as the Health Effects Institute, which is half funded by EPA and half funded by the automotive industry. So I think we should encourage EPA to increase such partnerships, because they have worked well in the past.

Third paragraph (Starts on line 36 of first page): Delete second sentence (not needed). The sentence that begins "Because these" on line 44 of first page is a run-on sentence if I ever saw one. I suggest deleting all those introductory phrases all the way from "Because these..." through "attempt their control" and start with "There is a critical need.." That is much more effective, I think.

Fourth paragraph (page 2, line 12); I suggest deleting the first two sentences and starting the paragraph with sentence #3, "The EPA should be ..." (Why delete sentence # 1? Because I do not see that EPA's commitment presents a challenge to the nation. I don't get it. Why delete the second sentence? It is a true concern but seems out of place where it is.)

Fifth paragraph (page 2, line 30): I suggest moving the sentences on lines 35-38 to the beginning of the paragraph, so the letter ends with how pleased we are to welcome her and how we look forward to working with her in the future.

5. Dr. Duncan Patten:

I like the bullet items, they are broad enough to cover many future issues. However, it isn't clear whether the following paragraphs are meant as an expansion or explanation of the bullet items or another set of expanded discussion points. I think examples probably should be given for the bullet list, but perhaps this letter is not the place to do it unless the paragraphs that follow the bullet list are meant as examples.... as said before, this isn't clear.

6. Dr. Jill Lipoti:

Here's my comment on the letter.

On page 1, line 39, we refer to the 1990 report about setting priorities. It looks really good that we anticipated EPA's needs and provided them with a framework almost 20 years ago.

Why don't we also put in a reference on page 2, line 8 to our 2000 report, "Toward Integrated Environmental Decision-Making". That way we give EPA some additional information about our recommendations for social science expertise. It also looks good that we provided guidance almost 10 years ago.

I think Administrator Jackson will be receptive to these recommendations.

7. Dr. Judy Meyer:

p. 1, line 44: I think we need to add a sentence to the effect that the same comment applies to EPA's current approach. That emphasizes that the problem is still with us; furthermore, as written it is not clear whether the next sentences are continuing with the recommendations from a decade ago or whether we are making our own recommendations.

p. 2, lines 1-4: That sentence is much too long and so convoluted that I am not sure what we are trying to say! Here is a possible edit. There is a critical need to evaluate and prioritize environmental problems in an integrated way that goes beyond current media-specific environmental programs because these problems involve multiple stressors that interact across a variety of media and that change over the temporal cycles of the activities. The nature of these stressors give rise to the problems as well as influencing the effectiveness of the manner in which we attempt their control.

p. 2, line 6: add "and multi-stressor" so it reads: "provide the necessary science and research to support and implement cross-media and multi-stressor approaches to protecting human health and the environment."

p. 2, line 20: But none of those agencies are regulatory, which I think presents a particular problem for EPA in establishing public-private

partnerships. The problem is both a legal issue, but probably more importantly, one of public perception. I really question whether we as the SAB want to advise this; it seems far outside our role as science advisors. I am going to need to hear some convincing arguments from the proponents of including this before I can support it.

p. 2, line 35: “soon” sounds very vague and as though we do not have a sense of urgency about this. I think we do. I suggest we provide some specifics and give ourselves a deadline for accomplishing this.

8. Dr. George Lambert:

I think all the thoughts are there, but the thoughts could be framed in a more collaborative and less directive approach. This can begin with the first paragraph where sentences from the last paragraph could be used. We should welcome her, explain our collective excitement to have her at the lead, and the SAB is here to assist her and the agency in their goal of making the agency more efficient and scientifically more rigorous.

The SAB met and had some initial observations which we would like to briefly share at this time and take the opportunity in the future to go into greater detail. Again the SAB is here to make the Agency the best it can be for the betterment of the American people.

Just some general suggestions/observations

9. Dr. Valerie Thomas:

It seems that everyone else did a really good job.

10. Dr. Swackhamer:

I like the new language - thanks.

11. Dr. James Bus:

I concur with Deb's comment.

12. Dr. John Giesy:

The letter looks good to me.

13. Dr. James Sanders:

The letter is a good one, and I don't recommend any changes.

14. Dr. Agnes Kane:

I have no comments - this letter is excellent.

15. Dr. James Galloway:

I have read over the letter and find it suitable. Thanks to all who put it together.

16. Dr. Jana Milford:

I think the letter is excellent, and have no further comments. I regret that I won't be able to participate in the conference call on Thursday, due to teaching commitments.