

**MINUTES from the
US Environmental Protection Agency Science Advisory Board
Public Teleconference Meeting
1:00 pm – 3:00 pm (Eastern Time)
January 26, 2005**

Meeting Location: Room 3700 USEPA Woodies Building,
1025 F Street NW, Washington, DC 20004

PURPOSE: The EPA Science Advisory Board (SAB or the Board) met by telephone conference to review two draft SAB panel reports on January 26, 2005 (1:00 – 3:00 pm). Attachment A is the Federal Register notice announcing the meeting (70 FR 1889, January 11, 2005). A meeting agenda is included as Attachment B and a Roster as Attachment C.

LOCATION: Participation in the teleconference was via phone for all.

DATE AND TIME: Wednesday, January 26, 2005. 1:00 pm – 3:00 pm Eastern Time.

PARTICIPANTS: The Members listed in the meeting roster (Attachment C) participated in this meeting. Agency representatives noting their presence included: Robert Alexi, Bruce Mintz, Fred Hauchman, Tom Behmeyer, Ann Grimm, Bruce Peirano, and Greg Sayles. Members of the public noting their presence included: Dr. Alan Roberson, AWWA.

MEETING SUMMARY: The Teleconference followed the agenda (Attachment B). A summary of the Teleconference follows.

1. Convene the Meeting and Introductory Remarks: Mr. Thomas Miller, Designated Federal Officer (DFO) for the Board opened the meeting at 1:00 pm and took a roll-call of the members, followed by an introduction of others. Mr. Miller gave an overview of teleconference procedures and then outlined the purpose of the meeting. Mr. Miller noted that the meeting was being conducted consistent with FACA requirements but that the meeting being a substantive editorial review was actually a non-FACA meeting.

Dr. Granger Morgan, SAB Chair, noted the origins of the review procedure and pointed out that the review by the Board was to focus on the Panel's draft report relative to the Board's charge for these reviews (see attachment D). The Board charge is, however, not a reason to refrain from raising substantive concerns if you have them.

Dr. Kristen Shrader-Frechette raised a point about an overarching concern that she believed to exist as a result of her efforts to locate and open the draft reports from the published Federal Register notice. She reported that she had not been able to go from the FRN forwarded by the Staff DFO to the document and was concerned that the public was thus not able to obtain and review the document in a timely manner. Dr. Morgan surveyed members, agency and public participants in the call to determine if anyone had

had difficulty in accessing the draft reports. None indicated problems. Staff will ensure that such issues do not become a problem with future reports. Members were provided a compilation of written comments made on the drafts (see Attachment E).

1. Review of the Draft Report, Review of EPA's Drinking Water Research Program Multi-Year Plan 2003: Review Panel – SAB Drinking Water Committee, Chair - Dr. Rhodes Trussell.

Dr. Morgan then introduced Dr. Trussell who Chaired the SAB review of the EPA Drinking Water Research Multi-Year Plan (MYP). Dr. Trussell mentioned the history of the review and noted a number of major points from the DWC's draft report (see Attachment F). He noted that he had received a number of written comments from members and that he had responded to them in writing and with a revision of the draft report (see Attachments G and H). He also received a comment earlier this morning from Dr. Trudy Cameron that he has not fully responded to yet (see Attachment I). He noted that several members had suggested that there would be value in having economists and social scientists on the review panel to which he agreed that they would have offered valuable insight.

Comments of Members during the call included:

a. Dr. Thomas Theis: He noted that there are emerging issues of interest beyond that of drinking water distribution systems. The agency does not seem to be thinking about such issues at a strategic level. Dr. Trussell suggested that this was an issue beyond the drinking water MYP and that it might be a good issue for the Board to take on at as an overarching issue across all programs. *Dr. Trussell agreed to high light the issue in the report.*

b. Dr. Kristin Shrader-Frechette agreed with the suggested need for economists and social scientists in SAB reviews. Many drinking water issues have significant environmental justice dimensions. She was not clear on how such panels are established and who decides on composition of Panels. Dr. Morgan reminded members that the SAB focus is on science and not policy. Panel composition is focused on having relevant domains of knowledge on its panels and not necessarily institutions. *The DFO noted that there is a need to discuss a number of relevant issues during future Board meetings (e.g., Panel development, the Board's role in reviewing draft reports, and report formats).*

c. Dr. Deborah Swackhamer asked if the letter could be shortened.

d. Dr. Trudy Cameron's written comments suggested that the SAB report note that it would be appropriate to incorporate into MYPs the concept of decisions on research program content at the margin being made relative to some objective function against which the marginal benefit of research components could be judged and made a part of the decision for inclusion or exclusion of components. *Dr. Morgan stated that this is a generic issue that should be a part of the February 17-18, 2005 meeting on EPA's science and research budgets.*

e. Dr. James Bus stated that there was a need for greater clarity on page iii paragraph 1 and 3 of the letter. He thinks there are areas where the letter does not match the content of parts of the body of the report.

f. Dr. Shrader-Frechette commented that on many pages, the statements in the report are not consistent with the summary comments in the letter to the Administrator, or with statements in other parts of the report (examples given are found in the report on page 2 (necessary and sufficient vs. insufficient to address, locked into institutional momentum); page 1 (rationale...not well articulated); and pages 14, 15, 16 (can be summed up to make any conclusions you want regarding whether the MYP is on point).

In general, the Board believed that there were a number of areas in the report that needed to be clarified. The Board agreed that the DWC Chair and vettors from the Board (Drs. Matanoski, Swackhamer, Shrader-Frechette could work with Dr. Trussell and Dr. Rose to revise the report to clarify the issues identified in their written comments and those discussed in this meeting. If there is an impasse on the resulting revisions, the report will be brought back to the Board for discussion. Otherwise, the edited report will be transmitted to the Administrator once the vettors approve of the clarifications.

2. Review of the Draft Report, Advisory on the Office of Research and Development's Contaminated Sites and RCRA Multi-Year Plans. Review Panel: US EPA Contaminated Sites and RCRA Multi-Year Plan Advisory Panel; Chair: Dr. Michael McFarland.

Dr. Morgan then introduced Dr. McFarland who Chaired the SAB review panel for these MYPs. Dr. McFarland summarized the activities and advice in the review Panel's draft report (see Attachment J). Comments from the Board are included in Attachments E and K and his draft responses are in Attachment L. {NOTE: Dr. Matanoski assumed the Chair's role for a portion of the call while Dr. Morgan stepped away for a short time.}

Comments of Members during the call included:

- a. There is a need for economists and social scientists in this type of a review.
- b. This issue has natural resource implications that should have been brought to the Board by EPA.
- c. There is a need to say more about how ORD identifies and prioritizes its projects and the role of PART in those decisions needs to be clarified. This process must be given greater transparency so others can see how these decisions are made.
- d. There is a need to devote a specific percentage of resources to emerging issues (10% was suggested by some members) and members noted that such a set-aside would have trade-off implications for existing work.
- e. The Plan does not say how EPA will satisfy the PART requirement for information on outcomes of the programs. EPA is evolving in the way it

applies the PART and they have not yet completed their improvements in using the evaluation approach. This issues needs to be clearly discussed in the report.

Dr. Morgan asked for a motion regarding report disposition. A motion was made to approve the report on condition that edits are made in response to member comments and that a set percentage to be invested in emerging research would not be specified. Drs. Kasperson and Parkin will serve as vettors for the edits.

The DFO adjourned the meeting at 2:55 p.m.

Respectfully submitted

Certified as True

/ Signed /

/ Signed /

Thomas O. Miller
Designated Federal Officer

Dr. Granger Morgan, Chair
EPA Science Advisory Board

Attachment D

Charge to the Board for Draft Report Reviews

The explicit charge given to the Board when it reviews a draft SAB Committee/Panel report is to determine:

- i) Whether the EPA charge questions to the review Committee have been adequately addressed in the draft report;
- ii) If the Panel's report is clear and logical;
- iii) If any conclusions drawn, or recommendations made in the report, are supported by the body of the Panel's report; and
- iv) If there are obvious technical errors or omissions in the draft report or if any issues are inadequately dealt with in the draft report (It is important to note that the Board reviewers are not responsible for identifying all possible technical errors or omissions in the draft report and that its approval is not a certification that the report contains no such errors).

ATTACHMENT I

NOTE TO BOARD MEMBERS:

I am attaching below, the comments that I have received from Board members on the two reports that are to be discussed on the January 26, 2005 Board telephone conference meeting. These are for information for Members in general and for consideration by the Chairs of the Committees drafting the two reports. The meeting agenda is also embedded below for your information.

The **Toll-free call-in number for the call is: 866-299-3188**
The **Conference code for the call is: 2023439982 #.**

Please call me if you have any questions.

Tom Miller
January 13, 2005

1. Review of EPA's Drinking Water Research Program MYP:

a. Dr. Rob Stavins

My overall reaction is that the Drinking Water Committee has done an excellent job. The report is — for the most part — sound, and very well written. Like all SAB reports, it suffers from a great deal of repetition, but that is a function of the format required by the SAB. Although the report itself strikes me as basically sound, I think that the letter of transmission to Administrator Leavitt may overstate the case made in the report in one key sentence: “The research products or Annual Performance Measures identified in the MYP focus on the highest priority research for each major topic area and appear both necessary and sufficient for accomplishing intended goals.” My recollection is that the substance of the report, as written, does not support such a strong, unambiguous conclusion devoid of caveats.

You won't be surprised to learn that I was particularly struck by the fact that economic analysis appears not to be part of the Committee's coverage. This may be a natural outcome, given the makeup of the Committee, but it struck me that a number of the questions raised would really require economic analysis to address them satisfactorily. In general, I take it that the Committee assumed that when EPA in its charge used the word, “science,” it meant natural sciences exclusively, to the exclusion of social sciences. In many contexts, EPA can reasonably define a charge any way it wants, and so if that was EPA's intention, then the Committee's response is appropriate. Some statement of this in the report and/or the cover letter would be helpful.

There is what may be a technical error or typo on page 17 of the draft report in the first paragraph on that page. In the discussion of the 2000 Arsenic Rule, it says that non-cancer health effects were not included in the benefit-cost analysis “because the costs of these could not be estimated.” Do the authors really mean the “costs,” or do they mean the benefits (i.e. the value of the avoided damages associated with non-cancer health effects)?

... I do not consider any of these points central to what either of the Committees had set out to do, and so I certainly do not intend for my comments to become a barrier for approval of the reports as written if I am alone in my concerns. Thanks for the opportunity of providing these comments.

b. Dr. Kenneth Dickson

Tom, here are my comments on this report.

I believe that the DWC did an excellent job of addressing the charge questions. The report is report is well organized and well written.

The DWC makes a number of recommendations for improvement of the Drinking Water Research Program and support those recommendations with clear explanations and logic in their report.

In the DWC report I did not see explicitly addressed the issue of pharmaceutical compounds in source waters and research on their fate and potential effects in drinking water. This seems to me to be an important issue for the ORD drinking water research program to be exploring?

Over all I think DWC did a good job and provided a constructive review of the DWRP Multiple Year Plan

c. Dr. Mike McFarland

Review of EPA's Drinking Water Research Program Multi-Year Plan 2003 Draft Report - McFarland Comments

In my opinion, the Drinking Water Committee (DWC) should be commended for providing clear, thorough and concise responses to the Agency charge questions in its draft report. The DWC provides sound and defensible arguments in support of ORD's multi-year planning approach as a logical and transparent framework for organizing its drinking water research activities. Beyond the charge questions, the DWC furnished the Agency with valuable recommendations and technical advice for framing the critical science questions relevant to drinking water research. In particular, the use of epidemiological prioritization of the relative risk posed by drinking water contaminants as the technical basis for supporting specific research activities on particular emerging pollutants, I believe is very sound advice. In reviewing DWC's overall advice to the Agency, I had only two minor comments.

1. In its letter to the administrator, the DWC supported a modest budgetary allocation to address what is termed "innovative" or "forward thinking" research. I fully support this recommendation but was curious as to whether the DWC had given any serious thought as to what percentage of ORD's drinking water research budget might represent a reasonable investment in "forward thinking" research. My personal opinion is that a sufficient investment in forward thinking research is critically important to ensure that ORD's future credibility and relevance in drinking water protection activities is not diminished.

2. In the Executive Summary, the DWC recommends that the Agency provide a clear contextual background for each key science question so that, among other things, the relationship between the long-term goals, annual performance goals and annual performance measures associated with addressing these questions can be better understood. Again, I believe this is very sound advice that will increase the transparency and improve the effectiveness of ORD's drinking water research activities. However, within the report I did not find any reference to the Agency's Strategic Plan and wondered whether the DWC had formulated an opinion as to whether or not ORD's long-term goals, annual performance goals and annual performance measures were clearly consistent and supportive of the Agency's Strategic Goal 2 (Clean and Safe Water). In my opinion, clearly defining the relationship between the Agency's strategic goals and ORD's long-term research goals is important in understanding the role of ORD's research activities in supporting the Agency's strategic objectives.

d. Dr. Rebecca Parkin

My initial comments follow.

Overall, the draft is well-written, clear and logical. It addresses the four charge questions adequately, although I suggest some changes (below). The conclusions are drawn from the body of the report, but at times it is difficult for the reader to judge what the cited evidence is in the MYP. I did not identify any technical errors. I wonder, however, whether the committee discussed the recent NRC report on the nation's water resource research priorities and funding. This broader context could offer additional insights about EPA's budget.

I recommend approving with edits.

Suggestions to consider for edits:

P. 2, para.2: I would add the sentences (from p. 9) about allocating funds to identify gaps and emerging issues (e.g., reconnaissance).

para. 3: I would add (from pp. 16-17) the comments about decision logic, and lack of subpopulation research. Both are crucial to advancing drinking water research.

last para.: I would add the time lag issue, also a crucial issue.

P. 5, para. 2: AWWARF is correctly written as AwwaRF. They are quite insistent about this.

P. 7, para. 3: I don't like the use of "acute" here. What I think the committee is really talking about are impacts that are severe, irrevsible, and potentially affect a very large number of people (magnitude). Not all "acute" impacts have these characteristics. This paragraph should be revised. Also, in this paragraph are comments about microbial issues. I believe these should be in a separate paragraph, especially if the last sentence is only referring to microbial issues and not the rest of the paragraph. In fact, I could take issue with using "the question" because it is only one of many questions.

P. 12, bulleted list: the third item is not grammatically parallel to the other 3 items.

P. 15, para. 1: Insert "potential" before "impact" in the last sentence.

P. 17, second to last para.: "deficiency" should be plural.

P. 19, last sentence: This seems to be tacked on. It doesn't link well to the rest of the paragraph. Delete it or make it fit better.

e. Dr. Myrick Freeman

Tom, I have read the Draft DWC Report on the ORD Water Research MYP. Regarding the Board's charge questions i, iii, and iv, I think that this draft is fine.

As for question ii (clear and logical), I find one sentence unclear. This is on p. 16 in the first paragraph of the response to Charge Question 3. The sentence reads:

The MYP does not, however, include the decision logic and theory research needed to determine the cost-benefit analysis of non-cancer endpoints.

I have several points:

- we usually don't say "determine the CBA." Rather we would say "conduct a CBA."
- I don't know what is meant by "decision logic and theory research."
- CBAs are usually done for proposed rules, not for endpoints.
- And ORD doesn't usually carry out CBAs. This is done by the program offices with the help of the National Center for Environmental Economics (sometimes?).

The second part of the sentence could be made more clear, I think, if it said " ... needed to conduct a CBA (I prefer to say "benefit-cost analysis") of proposed rules that affect non-cancer endpoints.

Finally, I think I see what the sentence is trying to get on on the next page which says "The 2000 Arsenic Rule these could not be included in the CBA because the costs of these could not be estimated." So the issue is that state of the art in valuing reductions in non-cancer endpoints. I would change that sentence to read "... because the benefits of reducing these (non-cancer endpoints) could not be estimated." And I would note that the Environmental Economics Research Strategic Plan emphasizes the need to develop better measures of the value of reducing morbidity, and reducing non-cancer endpoints is certainly part of that need.

A couple of minor points:

- I had a hard time with acronyms, for example, WTP and SOP on p. 14, and ICR on p. 17. .
- Should the first question under Section 3.1 on p. 10 be italicized?

f. Dr. Thomas Theis

I read through the draft of the DWC MYP report. It seems fine to me as far as it goes, but I was a little surprised to not see explicit mention of two critical areas for the near to medium term: emergent pollutants (e.g. perchlorate, endocrine disrupting chemicals, PBDE, etc.--As appears to be the only one that is specifically addressed), and water quality for urban areas. The emerging pollutant item is one that has gotten quite a bit of attention recently--I'm sure there is research within the Agency that addresses their health effects and removal--just seems like it deserves a comment or two in the review. Water quality in urban systems is an area that has been brewing for some time. The report does address source water protection, which is important, but there are many other aspects of the problem related to decaying infrastructures, pressures to expand existing systems, decentralization of water treatment and distribution, and application of appropriate new treatment technologies.

2. Advisory on the ORD Contaminated Sites and RCRA MYPs

a. Dr. Rob Stavins

My reaction to this Advisory is very similar to my reaction to the previous report. My overall reaction is that the Panel has done an excellent job. The report is — for the most part — sound and well written. Again, like other SAB documents, it suffers from a great deal of repetition, due to the format required by the SAB.

Having said that, the same issue regarding natural and social science that comes up in the context of the Drinking Water report comes up here. On page 2 of the Advisory, the question is posed: “What changes should be made to ensure that the long-term goals select and articulate the high priority science, engineering, and technology needs of the Agency to meet its strategic goal for preserving and restoring the land?” Does the word “science” refer exclusively to natural science, or does it include social sciences, such as economics. The text of the Advisory makes me think that the Panel assumed — perhaps correctly — that EPA meant “science” to refer exclusively to natural science. This should be made explicit in the Advisory (and in the future EPA should be clear about the use of this word when requesting help from the SAB).

I do not consider any of these points central to what either of the Committees had set out to do, and so I certainly do not intend for my comments to become a barrier for approval of the reports as written if I am alone in my concerns. Thanks for the opportunity of providing these comments.

b. Dr. Rebecca Parkin

Here are my comments on the draft by charge question.

1. The questions were adequately addressed except for #1. There is no discussion of high priority needs, as mentioned in the overarching Question 1. I see that important issues are addressed in 1b, but this is not the same as considering how issues are prioritized – even into two boxes (important and not). Maybe I’m being too picky, but I expected to see some comments about the agency’s priority setting process.

2. Overall, the responses are clear and logical. The only improvement I would suggest is bulleting the three items in 2b (p. 7, lines 34-39) so these are faster/easier to see.
3. Most of the conclusions are supported by the body of the report, but I find the bases for 10 years and 10% weak at best. I didn't see any rationale for why 10 years was chosen; e.g., why not 20 or 50 years? Also, I don't see a rationale for why an industrial % makes sense for a governmental agency; there contexts and obligations are quite different. For example, the Agency has responsibility to meet societal/public good needs that are much broader and longer term than those of many industries. The "industry" % is so broad that I can't make sense of it. What industry are we taking about here? Is this 10% generic across all types of industry, specific types... and are the types that are the bases for this % at all meaningful for EPA's context?

A recent NRC publication focused on water resource research priorities struggled with these same issues. Two key bases they used for determining the appropriate time frame and budget allocation were population and economic growth; e.g. what are the Nation's needs? While these two bases may not be relevant to this report, the point is that the committee identified anchors for their recommendations; I don't see similar anchors here. Although the topic is different, the panel may find selected portions of the NRC report (see below) useful as they strengthen their rationales for their time frame and % recommendations..

4. I didn't find obvious technical errors, but do think that referring to the NRC report (below) as an example of how the Agency could effectively prioritize, etc. site/RCRA research would be useful. The Agency (and Congress) received this report very well and has found it helpful. The Panel could stimulate transfer of the lessons learned from it from one Office (Water) in EPA to others.

The NRC report is:

Confronting the Nation's Water Problems: The Role of Research (2004)

Found at: <http://books.nap.edu/books/0309092582/html/index.html>

Pages 10-12, 91-92, and 167-177 are the most relevant for the Panel's work.

c. Dr. James Galloway

... I have two unofficial questions for you.

At the outset let me say that the report looks fine--you all obviously put a lot of time and thought into its preparation.

My first question has to do with the following paragraph (lines 12-19, page 2).

Given the importance of the work already in the program, the Panel recommends that about a tenth of the research program be devoted to research that looks far ahead (10+ years) on emerging needs, ideally through new resources, but by re-programming if necessary. This is primarily a matter of institutional health of ORD as a research organization and for EPA as a leader in environmental research. Without this change, the program will not, five years from now, be able to provide the quality of work and assistance that it currently provides to the regional and program offices. The Panel has also identified some areas for the Agency in which to explore the possibility of resource reallocation as well as some emerging research areas for the Agency to consider.

I completely agree that funds should be devoted to long-range planning. However, from the material in the report, it is not clear to me why "the program will not, five years from now, be able to provide the quality of work and assistance that it currently provides to the regional and program offices". Could you help me understand this?

My second question concerns a broader issue, there are several places in the report (e.g., items #6 and #9, on page 6)) where there appears to be a possible connection with the report's recommendations with the upcoming nitrogen project. Is this correct, or is the CS/RCRA effort not linked to agroecosystems?

.....Dr. McFarland's Response.....

I apologize for not getting back to you on those issues right away. Right after the semester finished, my family and I moved to a new home and, as you can imagine, all the unpacking is still not complete. I am just now catching up with December e-mails, so please forgive my tardiness. Your questions are excellent and I hope to be able to give you a more complete answer to them on the conference call. At any rate, here are my quick responses.

With respect to the first question, it was the general belief of the Panel that the Agency was doing an excellent job in meeting the current needs of Agency program offices (e.g., OSWER) as well as regional EPA offices. However, the Panel expressed concern over the ability of ORD to continue to remain responsive, credible and relevant if it did not establish (and fund) an institutional process by which it could continuously evaluate "emerging" environmental issues. It was the consensus of the Panel that ORD's role must be proactive rather than reactive with respect to identifying and addressing new environmental threats and that this facet of their mission could only be accomplished if ORD explicitly acknowledged the importance of an anticipatory research program and secured sufficient funds to support it.

The second question is a little easier to address. The CS/RCRA MYP provides a comprehensive description of ORD research activities in the area of waste recycling, which includes, amongst other things, the recycling of biomass (i.e., agricultural) waste for energy production as well as the production of energy from innovative design and operation of municipal waste landfills and monofills. These activities, as well as others, will directly impact the nitrogen cycle as the nitrogen captured in the original waste material (primarily as organic nitrogen) reacts chemically or biologically within gasification and/or bioreactor systems. The nitrogen evolved from these systems, of course, eventually becomes available for uptake by other vegetation, which, in principle, results in the eventual recycling of the nutrients. Another issue that was raised in our deliberations but which was not fully addressed was the establishment of energy farms (i.e., the use of biosolids or wastewater sludges as a source of nutrients in the agricultural production of energy crops, e.g., grain sorghum). Although this would have a direct impact on the nitrogen cascade, ORD responded that management of biosolids was outside the scope of the CS/RCRA MYP since biosolids is actually a water quality issue and is addressed under another program.

I am not sure if I sufficiently addressed your questions and please do not hesitate to e-mail me if I only created greater confusion. Again, I apologize for not getting back to you in a timely fashion on those questions. Thanks again for your interest and support of the Panel's efforts.

.....Dr. Galloway's Follow up

Hi Mike, thanks for the response; congratulations on what I trust is a successful move!

Concerning the first point, I understand what you are saying and I guess my only question would be should the report be expanded a bit to further explain the point to the reader.

On the second point, there is much to discuss, but I am not sure that it relates to the conference call (Tom?). Two important issues are:

-as 'nitrogen is evolved from these systems [and] eventually becomes available for uptake by other vegetation', there is a benefit only if the N is captured and then used where it is needed, and not just lost to the environment.

-the compartmentalization by ORD (i.e., 'addressed under another program') is a great example of the need for more integration within EPA on N management.

.....**Dr. McFarland responds again**

Your suggestions are right on target. The Panel wrestled with “how much” should be earmarked by ORD to address emerging issues. The feeling was that ORD’s relevance in addressing future environmental threats was a direct function of their ability to anticipate, which of course, involves some investment of personnel and financial resources. The same type of issue, I believe, is pertinent to all ORD’s MYP’s. In other words, the MYPs are five year plans and, the Panel felt very strongly that a substantive investment is needed to identify those future environmental issues (and the science needed to address them) that may not have fully reached the radar screen of the program offices and EPA regional offices. It also helps to maintain and secure ORD’s role as a leader in environmental research. I think raising this issue on the conference call would be extremely important since it is an important topic on which the SAB could provide valuable advice.

d. Dr. Terry Young

I reviewed this report and find it to be clearly written and responsive to the charge questions. I would support a motion to approve the report pending the correction of the few minor editorial errors.

As an aside, I would also like to convey my appreciation for the committee's responses in two areas: suggestions for a specific percentage of total effort for emerging issues; and the note regarding the importance of core research (as contrasted with problem-driven research). In both of these areas, EPA is constantly challenged to maintain a balance appropriate to meeting its long-term goals and its mission. SAB encouragement will hopefully help, and surely cannot hurt in this regard. If the committee feels it necessary, there are NRC reports that could be referenced to bolster these points.

3. General Comments on the Draft Report Review Process

a. Dr. Kristin Shrader-Frechette

Happy new year! I have lots of questions. Putting them all in writing, in email, takes a lot more time than handling them at an interactive meeting. There are lots of good reasons that such reports/approvals require meetings, and the main one is that meetings allow more detailed interaction and scrutiny. The benefit of having an entire committee is so that we can all interact and produce better science than any of us could do alone. I don't like the phone conferences -- except when absolutely necessary -- because they exclude some people and don't allow the open interaction, exchange, scrutiny, and questioning. Is it possible to go over this report at the February meeting? Also, can we put on the agenda of the February meeting a discussion of the phone conferences, report approval, etc., so we agree on what will/will not be handled by conference call? My personal opinion is that such report discussions/ approvals should be done at meetings, since these reports are one of the most important things we do, and they deserve a second-tier scrutiny, including votes and minutes....hence the wisdom of requiring meetings for them. (This message seems to be going only to you, although I hit "reply all"; if this message does not go to all committee members, would you see that all folks on committee get it today?)
Thanks much