

**Preliminary Comments from Members of the Chartered SAB on the SAB
Recommendations for EPA's FY2011 Scientific and Technological Achievement
Awards (October 26, 2011 draft)**

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Comments from Dr. George Alexeeff

At the request of ORD, the Science Advisory Board annually makes recommendations to the Administrator concerning nominations for the Agency's Scientific and Technological Achievement Awards. These awards are established to recognize EPA employees who have made outstanding contributions in the advancement of science and technology through their research and development activities, as exhibited in publication of their results in peer-reviewed journals.

1. Were the original charge questions adequately addressed?

My understanding is that the charge question is basically to "to review EPA's nominated scientific papers and to make recommendations for awards." So this particular question could be highlighted in a manner to make the charge clearer. The draft report meets this charge.

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

I did not identify any errors or omissions.

3. Is the Panel's draft report clear and logical?

Under the heading of 4. Administrative Recommendations, I found one of the recommendations unclear: "*Discourage submission of nominations from standards-setting organizations.* Nominations of methods papers published by standards-setting organizations are commendable but difficult to ascertain and ascribe authorship contribution. The level of credit and responsibility linked to each author's contribution is often unclear because standards-setting organizations generally require extensive reviews of standards before considering them final, and the final product frequently incorporates input from a large number of peer reviewers after an initial draft standard is developed. The SAB thus urges that the nomination guidelines be updated to discourage nomination of methods papers published by standards-setting organizations."

First, I find the term "discourage" vague and unclear. If the committee felt that such papers should not be included for the consideration of awards, the report should say so. If the EPA states "*we discourage submission of nominations from standards-setting organizations,*" in their call for papers, and if such papers are submitted, will they still be considered for awards?

Second, the term "*standards setting organizations*" is also unclear. The term 'standard' can be considered literally or generally. Is the recommendation referring to ambient air quality standards? Or is standard being taken very generally to include maximum contaminant levels in drinking water, clean up goals and IRIS values? Also isn't EPA itself considered a "*standard setting organization*?" Consequently, the recommendation is likely to more helpful if it is more clearly stated.

Finally, I think this recommendation to exclude such peer reviewed publications from awards should be reconsidered. The recommendation suggests that the underlying reason for the recommendation is that the authors do not deserve the credit for the papers they submitted ("level of credit and responsibility linked to each author's contribution is often unclear"). One of the reasons is because of the extensive peer review such documents receive during the standard

setting process. As far as I can tell, such papers require far more work than other publications. What about papers that require initial major revisions from the publication? Are the peer reviewers in this case providing too much influence in the paper? If the committee is concerned about authorship I would prefer they request a clearer explanation in the award submission of who is responsible for the bulk of the work. In the end, I think it is important that papers describing the development of pollution standards be submitted to peer review publications. This often allows a succinct description of possibly a huge volume of data and analysis that is in an EPA report. The publication of studies and data as part of a standard setting allows an important EPA decision to be read and understood by a wider audience. I am concerned that this recommendation could discourage such publications by EPA staff.

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?

The following recommendation is not sufficiently supported: "*Conduct external peer review on any nominated book chapters.* The selection of peer review mechanism is critical for enhancing a scientific or technical work product so that the product has a sound, credible basis. Independent peer reviewers should be selected primarily based upon the reviewers' expertise, knowledge, skills and experience. EPA should always make every effort to use peer reviewers who do not have any conflict of interest or an appearance of a lack of impartiality and who are completely independent of the product being reviewed. External peer reviews are generally preferred for influential scientific information and assessments. Since book chapters are considered highly influential scientific information and assessments, the SAB recommends that book chapters must undergo external peer review prior to being nominated for a STAA award."

The recommendation is suggesting a remedy which seems impractical. The recommendation is suggesting an additional artificial process in order to submit a book chapter for an award. If a document has been accepted as a book chapter, then it is unlikely to undergo peer review later. The concern raised is that book chapters may not have undergone peer review. Further, while journals generally provide information on their peer review policies that can be easily determined; books rarely provide any such information. It would seem more helpful to the awards process that the recommendation suggest that information regarding the extent of peer review of book chapters be submitted with the awards application. The guidelines for selecting awards could state that non peer-reviewed documents are likely to receive low ratings and found ineligible for cash awards, if that is the opinion of the committee.

Comments from Dr. Joseph Arvai

I have very little to add to what's been said in the other reviews. Overall, I found that (1) the original charge were questions adequately addressed; (2) there were no technical errors or omissions in the report, or issues that were inadequately dealt, that I could see (though in hindsight, I agree with one of the other comments that the review process -- esp. relating to Category I, II, and III awards -- could have been made clearer; (3) the Panel's report was clear and logical (I myself did not have the kind of concerns that others had about discouraging nominations from standards setting organizations); and (4) the recommendations provided seemed to be well supported by the body of the report.

Comments from Dr. Ingrid Burke

1. Were the original charge questions adequately addressed?

. I was not very able to discern what the Charge Questions were. It seems that they were to review the nominations and make recommendations, and then to review the process, including considering whether EPA reports should be considered as eligible, in a separate category, for STAA awards.

If those were the questions, the report does address them adequately.

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

Not that I can see.

3. Is the Panel's draft report clear and logical?

Yes. It is short, to the point, and well-written.

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?

The first key recommendation is that EPA reports not be considered for STAA awards. This recommendation is very well supported (and I concur with the reasoning, as well).

I think the other 4 recommendations are strong, although there is not a lot of justification for them in the text. I found the recommendation about categorizing nominations to be confusing; I think I do understand it after reading it a number of times. There could be some language that needs editing to clarify this. The statement that "The Committee strongly believes" in the Administrative Recommendations would be better expressed if it a) didn't focus so much on the cash award incentive (there seems to be something nefarious implied here; and b) didn't use the verb "believe", so that the conclusion seems more a consequence of logic than feelings.

Comments from Dr. Costel Denson

General Comments

Overall, the report is well-written and it is easy to follow. The conclusions/recommendations are firmly established. However, this reviewer had difficulty understanding the significance of the recommendation dealing with "...the preparation of index and table..." Could some clarification or amplification be provided?

1. Were the original charge questions to the Panel adequately addressed? **Yes**

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?
None that this review detected.

3. Is the Panel's draft report clear and logical?
Except for our comments presented earlier under General Comments, this reviewer judged the report to be clear and logical.

4. Are the conclusions drawn or recommendations provided supported by the body of the Panel's report?
Yes

Comments from Dr. Michael Dourson

Charge Questions:

- Were the original charge questions to adequately addressed? Perhaps I missed the original charge, but otherwise have no comments on this question.
- Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report? I have no comments on this question.
- Is the Panel's draft report clear and logical? I have no comments on this question.
- Are the conclusions drawn or recommendations provided supported by the body of the Committee's report ? Please see the one comment below.

It is difficult to review this text since the existing background information is not available. However, the panel's administrative recommendations seem reasonable, with a question to be answered on the following recommendation:

Discourage submission of nominations from standards-setting organizations. Nominations of methods papers published by standards-setting organizations are commendable but difficult to ascertain and ascribe authorship contribution. The level of credit and responsibility linked to each author's contribution is often unclear because standards-setting organizations generally require extensive reviews of standards before considering them final, and the final product frequently incorporates input from a large number of peer reviewers after an initial draft standard 30 is developed. The SAB thus urges that the nomination guidelines be updated to discourage nomination of methods papers published by standards-setting organizations. (Page 5, lines 25 to 32)

Specifically, what does the panel mean by "standards-setting organizations"? As the panel knows, EPA is a standards-setting organization, so are its methods papers not reviewable? If this is the panel's intent, then I find myself in disagreement. In many situations, EPA's methods have been developed primarily by one or a few individuals--- with help and peer review by many colleagues. A good example of this is EPA (1994), and specifically its development of the Reference Concentration (RfC) method for human health dose response assessment for air toxics. Everyone inside of EPA, and many outside, realize that these stellar methods, used by EPA and many other organizations today, were developed primarily by Annie Jarabek of EPA, with a lot of help from her colleagues, of course. Not being able to nominate a method such as this for an award would seem to go against the principles established by STAA program.

Reference:

U.S. EPA (United States Environmental Protection Agency) (1994). Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry. EPA/600/8-90/066F, October 1994.

Comments from Dr. Nancy Kim

General comment. From the Committee's letter and report, the process seems to become streamlined and improved from many perspectives. Much of this is due to previous committees' recommendations about the process and from ORD's efforts to improve its submissions. The present committee continues these efforts by making additional recommendations to improve the process.

1. Were the original charge questions adequately addressed?
Yes.
2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?
Not that I noticed.
3. Is the Panel's draft report clear and logical?
Yes.
4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?
Yes, to the extent that can be determined. I assume that, if needed, any additional explanations or interpretations of the criteria for the STAA Program awards are in Appendix B. If such exist and can be stated with in a way that does not affect confidentiality, they may be useful to future committees' reviews.

Minor comments.

1. First page of letter, line 20. Should "science and technology as evaluated in their publications..." be "science and technology in their publications..." Somehow as evaluated in their publications implies to me that the publications did the evaluating.
2. First page of letter, line 37. I had to reread the phrase "clarify the relationship between publications within nominations comprised of multiple publications" several times before it was clear. I do not have any specific recommendations for improving it. The report clarifies the meaning on page 5.

Comments from Dr. Cecil Lue-Hing

General Comments

The Panel has done an excellent job of reviewing a large number of nominations for this contest, and has offered the EPA some meaningful recommendations aimed at improving the nomination process.

Comments on Quality Review Questions

1 – Were the original charge questions to adequately addressed?

Yes, the questions were adequately addressed.

2 – Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel’s report?

None that I am aware of.

3 – Is the Panel’s draft report clear and logical? and

Yes.

4 – Are the conclusions drawn or recommendations provided supported by the body of the Committee’s report?

Yes

Comments from Dr. James Mihelcic

- Were the original charge questions to adequately addressed?

Yes the charge questions were adequately addressed.

- Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

Table 1 (2011 STAA Nominations by Topic Category) could be improved if an additional column was added that lists the number of nominations that were selected in a particular category. That way, the agency can assess whether their new initiatives (e.g., sustainability and innovation) and emerging topics (energy and the environment) are taking hold in regarding EPA research that is deemed to be of highest quality. For similar reasons, it would also be useful if the list of topics (or submissions) were assigned to one of the four new integrated programs (Air, Climate and Energy; Safe and Sustainable Water Resources; Sustainable and Healthy Communities; and Chemical Safety for Sustainability) and the two new cross-cutting areas Human Health Risk Assessment and Homeland Security Research).

- Is the Panel's draft report clear and logical?

The draft report is clear and logical.

- Are the conclusions drawn or recommendations provided supported by the body of the Committee's report

Yes

Comments from Dr. H. Keith Moo-Young

1. Were the original charge questions to SAB Standing or Ad Hoc Committees adequately addressed?

Yes. The original charge questions were adequately addressed.

2. Are there any technical errors or omissions in the report or issues that are not adequately dealt with in the Committee's report?

No technical errors or omissions were detected in the report.

3. Is the Committee's report clear and logical?

The committee has done an excellent job of reporting a clear and logical report.

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?

The conclusion drawn and recommendations provided support the body of the report.

Comments from Dr. James Opaluch

1. Were the charge questions to the Panel adequately addressed?

The charge question is not explicitly stated in the report. Although Appendix A is labeled as “Charge to the Committee”, it contains only the call for Award nominations, and no explicit charge is given. As a consequence, it is not possible to determine whether the charge question is fully addressed.

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel’s report?

I don’t see any technical errors, omissions or issues that are inadequately dealt with in the report. Having said that, since there is no explicit charge to the committee, it is not possible to conclude whether all issues are adequately addressed by the Report.

3. Is the Panel’s report clear and logical?

In general, the report appears to me to be clear and logical, with the exceptions indicated elsewhere in these comments.

4. Are the conclusions drawn or recommendations provided supported by the body of the Panel’s report?

The report discourages nominations from standards setting organizations, arguing that they are difficult to ascertain and ascribe authorship contribution. First, the panel should clarify what is meant by the term *organizations*. Given the report’s recommendation, it seems like it should refer to papers that are the output of a particular standards setting activity.

But more substantively, I think it would be more logical if the recommendation were worded as discouraging nominations of papers whose authorship cannot easily be ascertained and ascribed. There may well be papers from standards setting activities whose authorship is easy to ascertain, and there may be papers outside of standard setting whose authorship is not easy to ascertain. And just about any paper may (or may not) have resulted from “input from a large number of peer reviewers”. It seems like a sweeping generalization to exclude *all* papers regarding standard setting because they must have been the result of input from a large number of peer reviewers, but papers of non-standard setting origins are allowed to be nominated, because they would not have results from a large number of peer reviews.

This recommendation should be clarified.

Comments from Dr. Duncan Patten

1 Were the original charge questions to adequately addressed?

The review process and the report seems very well done.

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

This was not the type of report that would have technical errors, but there is one issue that the panel might have raised a question about (the following comment might belong elsewhere among these four questions but I put it here). The panel reviewed 134 nominations but none of these were in the topic "Risk Management and Ecosystem Restoration" although 24 nominations were in "Ecological Research". If I were on the panel, I would ask why ORD has no good research, or perhaps no research, in the areas of Risk Assessment or Ecosystem Restoration. Both of these areas of research are critical to the goals of ORD. Is this lack perhaps because they have been lumped in with Ecological Research?

3. Is the Panel's draft report clear and logical?

The report is clear and points out possible improvements in future submittals of ORD research for SAB review.

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report

Yes....

Comments from Dr. Amanda Rodewald

1. Were the original charge questions adequately addressed?

Yes.

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

No.

3. Is the Panel's draft report clear and logical?

Yes, overall.

Probably because of differences in terminology among disciplines, I was confused by the recommendation, Discourage submission of nominations from standards-setting organizations. It would be helpful to have an example of one.

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?

Yes.

Comments from Dr. James Sanders

1. Were the original charge questions adequately addressed?

YES

2. Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

NO

3. Is the Panel's draft report clear and logical?

YES

4. Are the conclusions drawn or recommendations provided supported by the body of the Committee's report?

YES

Comments from Dr. Peter Thorne

1. Were the charge questions adequately addressed?

The charge is stated somewhat obliquely in Background as “Each year, the EPA Sciences Advisory Board (SAB) has been asked to review EPA’s nominated scientific papers and make recommendations for awards.” Given the information available in the review it appears this charge was adequately addressed.

2. Are there are any technical errors or omissions in the report or issues that are not adequately dealt with in the draft report?

The Review document discourages “methods papers” from nomination. Methods papers can be mundane but they can also be extremely innovative and influential. Methods papers are often among the most frequently cited papers in the literature. Without further qualification this discouragement seems arbitrary.

3. Is the draft report clear and logical?

Yes. I find it so.

4. Are the conclusions drawn or recommendations provided supported by the body of the draft report?

With the exception of #2 above, the Administrative Recommendations are sensible and sufficiently supported.

Comments from Dr. John Vena

Were the original charge questions to the committee adequately addressed?

I extend my compliments to the Panel for the review of the nominations and recommendations for improvement in the nomination process. In my opinion the charge was adequately addressed.

Are there any technical errors or omissions in the report or issues that are inadequately dealt with in the Panel's report?

It would be helpful to add to the cover letter on page 1 lines 25-30 to briefly state the process of applying the criteria used to select awardees and the level of awards.

It is not clear to me if the nominations are of individuals or papers. Do all authors on a winning paper get a monetary award?? Why are review papers included? Do they receive lower priority?

On page 3 the process of rating and making decisions on the awardees and categories is not complete. It is stated that 2-3 panel members rate each paper. How? Is it just by level of award? If so, then how are discrepancies or disagreements resolved. Is a summary recommendation from the 2-3 reviewers given to the panel? It is stated that each nomination was discussed and consensus reached. How? What specific criteria were used to differentiate between I, II and III?

Is the Panel's draft report clear and logical? YES

Are the conclusions drawn or recommendations provided supported by the body of the Committee's report? YES