UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

EPA-SAB-EC-COM-01-004

Honorable Christine Todd Whitman
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: Recommendations to Improve Visibility of the Scientific and Technological Achievement Awards (STAA) Program: an EPA Science Advisory Board (SAB) Commentary

Dear Governor Whitman:

For nearly two decades, the EPA Science Advisory Board (SAB) – through its Scientific and Technological Achievement Awards (STAA) Subcommittee – has reviewed the Agency's nominations for the scientific and technological achievement awards program. During that time we have made recommendations that have resulted in hundreds of awards to Agency scientists across many EPA programs and regions. This program, sponsored and managed by the Office of Research and Development (ORD), is a crucial component of the Agency's efforts to recognize and reward the development of sound science to inform decision making. However, in our view, the Agency could do a much better job of making this important program more visible and useful.

In this Commentary, we identify our recommendations to improve the visibility and effectiveness of the STAA program. We have divided our recommendations into four categories: a) strengths and weaknesses of the program; b) the general quality of the work being done; c) improvements in the way EPA advertises success; and d) the importance of strong leadership. Our specific observations and recommendations for each category follow.

1. Strengths and Weaknesses of the Program

On balance, we observe that the current STAA review process works very well and should be retained. However, we believe that the eleven broad categories[1] used to group nominations should be re-evaluated periodically to determine if the focus of the program or the priorities of the Agency (or "currency" of topics) have changed. For example, EPA might

[1] Control Systems & Technology (CS), Ecology & Ecosystem Risk Assessment (ER), Health Effects & Health Risk Assessment (HE), Monitoring & Measurement Methods (MM), Transport & Fate (TF), Review Articles (RA), Risk Management and Policy Formulation (RM), Integrated Risk Management (IR), Environmental Trends for Drivers of Future Risk (EF), Social Science Research (SS), and Environmental Education (EE)

benefit from specific consideration of social science, environmental economics, risk communication, exposure, and other topics as possible award candidates.

a) We recommend that the current two-stage process in assessing the STAA awards (initial screening by ORD, followed by peer review by the SAB's STAA Subcommittee) be retained. The face-to-face STAA meeting for final assessments is absolutely essential as the review discussions cannot be handled effectively via mail or teleconference.

b) Quality research often takes time to complete, however, the Agency also needs to stress "currency" of topics in its annual submittal to the STAA Subcommittee. We recommend that the topics of the nominations submitted by the Agency reflect major priorities of the Agency and the Administrator whenever possible.

c) Basic research is valuable, but applied research is no less important -- we recommend that both kinds of work be submitted for consideration. Some of the applied research papers will be seminal works that will be quoted and cited for many years.

d) Critical review papers (e.g., nominations in the Review Articles category) can be noteworthy. But they must contain more than just a synthesis of the information. It is crucial that analysis and interpretation be included as well. We recommend that the Agency consider adding a new category for *major edited works.*

e) We observe that the issue of policy is difficult to address, but that the science-policy interface where EPA lives in its interactions with the Congress, the public and various stakeholders is of great importance. Research in support of policy may be a good application, but research in <u>defense</u> of policy decisions that have been made in advance of the science may not be helpful, and are not very productive.

2. General Quality of the Work Being Done

In order to maintain scientific credibility, it is crucial that the U.S. Environmental Protection Agency be viewed as a contributor to the advancement of science, especially science that provides the technical underpinnings for its programs. The appearance of EPA-produced scientific papers and articles in the peer-reviewed literature is critical and helps establish the Agency as an important contributor to the scientific literature. Adding a strong, impartial awards program that reviews the best of these publications and recommends the most significant work among them for awards is an excellent means of enhancing the value of the work that has been performed.

a) We are pleased with the overall quality observed in the papers. This is certainly emphasized by our recommendation for two Level I awards and eleven Level II awards this year – both representing increases over recent years. Each year, we typically find the overall quality of the work to be good and recommend more

than a third of the submitted nominations for some level of award. However, in spite of such good quality work, the Agency has not used the Scientific and Technological Achievement Awards process as a means of enhancing its scientific leadership. We recommend that the Agency – through its Science Policy Council – evaluate how best to use this very useful program to enhance the way in which EPA's science is perceived on the outside.

b) We recommend that the Agency consider applying a formal awards program (similar to the STAA program) to the ORD Science to Achieve Results (STAR) Grants. We believe that it might be useful in the future for STAR grantees to have more interaction with EPA researchers addressing parallel issues.

3. Advertising Success

It is evident to the SAB that the STAA program does not receive broad acknowledgment and advertisement among the scientific community outside of EPA and the public in general. For example, we have not received any feedback from the Agency regarding how awards are presented and celebrated and how this program is promoted (e.g., in the press, in newsletters, in the Administrator's speeches) to enhance credibility of science at EPA, nor have we seen instances of external acknowledgment of the awards.

a) We recommend that the Agency provide consistent feedback to the SAB, including informing us what is presently done to announce or otherwise acknowledge the STAA awards. This can be done in writing as a response to our annual report recommendations, or via an oral briefing at our annual meeting.

b) We recommend that the Agency initiate a press release after the STAA awards are announced. In addition, information could be posted on the EPA/ORD and SAB websites, as well as other areas (e.g., professional societies, ESA Bulletin, SETAC, etc.).

c) We recommend that the Agency target articles in journals and encourage editorials in journals or newsletters. The STAA Subcommittee is also willing to participate in this effort.

d) The SAB Executive Committee intends to invite the Level I award winners each year to present their findings at a public SAB Executive Committee meeting [and to the extent possible, invite Level II award winners to present posters at the same meeting]. We encourage the Agency to make arrangements for similar presentations and posters through the EPA website and other venues.

e) We recommend that the STAA award presentations be elevated to a more visible level, perhaps by combining them with other Agency-wide award ceremonies. Although the bulk of the nominations, and hence the eventual award recommendations are from ORD, the ceremony should be Agency-wide.

4. Strong Leadership

While the importance of this program to the scientists competing for and receiving awards is very clear, what is less clear is the commitment of Agency leadership to use these awards and the STAA program as a means to enhance EPA scientific leadership. Buy-in and support from the Laboratories and Programs is critical; however, strong support and positive advocacy from the most senior levels of the Agency are critical to the effectiveness of the STAA program and its ultimate importance to the Agency and the overall scientific community. This includes strong support from all Assistant and Regional Administrators.

a) The STAA Program needs a strong advocate to remain effective. We recommend that this be at the Administrator or Deputy Administrator level to ensure support across all of EPA. Although most of the nominations come from, and the awards are given to ORD scientists, the STAA program is Agency-wide. Such continued support by upper management is essential for fostering an atmosphere of productive and supportive research to the Agency's overall mission.

b) The STAA process is very definitely "Bottom-Up," and this is a good approach to communicate directly with the scientists and researchers. However, there is a need to communicate with Agency senior management on the issue of changing perceptions on topical areas and their "currency." To assist in this, we recommend that the SAB Executive Committee Chair and the STAA Subcommittee Chair jointly brief the Deputy Administrator and the AA-ORD about the awards and the SAB's observations concerning them following the SAB approval of the Subcommittee report each year.

We are pleased to have participated in this process once again and believe it is appropriate for the Board to continue this annual review function. We look forward to your feedback on the issues we have raised in this commentary.

Sincerely,

/ Signed /

Dr. William Glaze, Chair
EPA Science Advisory Board

/ Signed /

Dr. C. H. Ward, Chair
Scientific and Technological Achievement Awards Subcommittee
EPA Science Advisory Board

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U.S. Environmental Protection Agency
EPA Science Advisory Board
Scientific And Technological Achievement Awards Subcommittee*

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