



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

EPA-SAB-RSAC-89-033

September 5, 1989

OFFICE OF
THE ADMINISTRATOR

Mr. William Reilly
Administrator
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Reilly,

The Science Advisory Board has completed its review of ORD Assistant Administrator's Interim Guidance for FY 1991. The Board was asked to examine particularly:

1. The balance between core research activities and program support research activities.
2. The balance among the major components within the core research activities and within the program support research activities.

The Research Strategies Advisory Committee (RSAC), convened on July 22 to review the document and obtain additional information from the Office of Research and Development (ORD). The attached report was prepared on the basis of the meeting and reviewed and approved by the RSAC and the SAB Executive Committee.

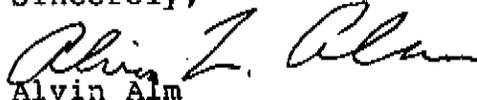
The RSAC strongly supports the program laid out in the guidance document. An effort of this type and magnitude is needed if the Agency is going to fulfill its mission of protecting public health and the environment. Specifically, the Committee finds that the relative emphasis given to core research and programmatic research is appropriate. Further, given the budgetary constraints, the distribution of resources among the various research components within the two portions

of the research effort is appropriate. The RSAC once again endorses the need for an institute devoted to ecological studies, a major commitment to risk reduction research, increased exposure assessment activity, efforts to reestablish a meaningful grants program for investigator-initiated grants, and increased attention to rebuilding the physical and personnel resources of EPA laboratories.

The RSAC firmly believes that, even in the face of budgetary constraints, the Agency must retain the integrity of the core research program set forth in the Guidance. A viable core research program requires this level of commitment.

We appreciate the opportunity to conduct this review and look forward to a formal response from you on your reaction to the contents of our report.

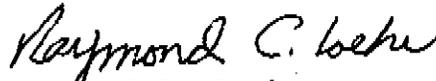
Sincerely,



Alvin Alm

Chair

Research Strategies Advisory Committee



Raymond C. Loehr

Chair

Executive Committee

United States
Environmental Protection
Agency

Office of the Administrator
Science Advisory Board
Washington, DC 20460

EPA-SAB-RSAC-89-033
September 1989



Report of the Research Strategies Advisory Committee (RSAC)

Review of the ORD Assistant Administrator's Interim Guidance for FY 1991

NOTICE

This report has been written as part of the activities of the Science Advisory Board, a public advisory group providing extramural scientific information and advice to the Administrator and other officials of the Environmental Protection Agency. The Board is structured to provide a balanced expert assessment of scientific matters related to problems facing the Agency. This report has not been reviewed for approval by the Agency; and, hence, the contents of this report do not necessarily represent the views and policies of the Environmental Protection Agency or other agencies in the Federal Government. Mention of trade names or commercial products does not constitute a recommendation for use.

SCIENCE ADVISORY BOARD
Report of the Research Strategies Advisory Committee (RSAC)

REVIEW OF ASSISTANT ADMINISTRATOR'S
INTERIM GUIDANCE FOR FY 1991

ABSTRACT

The Office of Research and Development (ORD) is in the process of implementing many of the SAB recommendations made in earlier reports: Future Risk (EPA-SAB-EC-88-040), Review of ORD's Core Research Areas (EPA-SAB-RSAC-89-013) and Review of the Fiscal 1990 President's Budget for Research and Development (EPA-SAB-EC-89-014). These actions are reflected in the document which ORD supplies to EPA program office managers to guide them in preparing their requests for research projects in fiscal year 1991. At the request of the EPA Administrator, the SAB Research Strategies Advisory Committee (RSAC) has reviewed the guidance (Assistant Administrator's Interim Guidance for FY 1991, June, 1989) to judge its adherence to earlier recommendations and its adequacy to deal with current and emerging environmental issues.

The RSAC strongly supports the program laid out in the guidance document. An effort of this type and magnitude is needed if the Agency is going to fulfill its mission of protecting public health and the environment. Specifically, the Committee finds that the relative emphasis given to core research and programmatic research is appropriate. Further, given the budgetary constraints, the distribution of resources among the various research components within the two portions of the research effort is appropriate. The RSAC once again endorses the need for an institute devoted to ecological studies, a major commitment to risk reduction research, increased exposure assessment activity, efforts to reestablish a meaningful grants program for investigator-initiated grants, and increased attention to rebuilding the physical and personnel resources of EPA laboratories.

The RSAC firmly believes that, even in the face of budgetary constraints, the Agency must retain the integrity of the core research program set forth in the Guidance. A viable core research program requires this level of commitment.

KEYWORDS: Research, ORD, RSAC, Core, Budget, Guidance

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SCIENCE ADVISORY BOARD

Report of the Research Strategies Advisory Committee (RSAC)

REVIEW OF ASSISTANT ADMINISTRATOR'S INTERIM GUIDANCE FOR FY 1991 June, 1989

1. BACKGROUND

In 1987 the EPA Administrator asked the Science Advisory Board (SAB) to review the Agency's environmental research program and make recommendations which would prepare the Agency to address the needs of the coming decade. In response the SAB formed a 30-member Research Strategy Committee that worked for 18 months under the direction of Chairman Al Alm.

In September, 1988 the SAB delivered their report, Future Risk: Research Strategies for the 1990s (1) to the Administrator. That same month, he initiated action (2) to implement the majority of the recommendations, including establishing a Research Strategies Council (RSC), composed of high-level Agency managers. The RSC oversees development of the near-term research program responsive to EPA's statutorily mandated regulatory programs. The group also oversees the development of the longer-term "core" research program that focuses on the more fundamental technical aspects of environmental issues and provides the "technical capital" upon which the Agency can draw in facing the lingering problems of the present and the emerging problems of the future.

The Administrator also implemented a recommendation of the SAB by asking the SAB to establish a standing committee to advise him and the RSC on research issues (3). In response, the Executive Committee of the SAB formed the Research Strategies Advisory Committee (RSAC) to assist the Administrator in this manner. In addition, the charter of the RSC identifies the RSAC Chair as a member of the Council.

Each year, the RSAC is expected to submit a report on the ORD core research program at the fall meeting of the RSC. At the spring RSC meeting, the RSAC is expected to submit a report on how well the core research program is reflected in the AA/ORD's guidance to the Research Committee on how to prepare for the next budget cycle. The previous RSAC report (5) fulfilled the first expectation; this document fulfills the latter expectation.

2. PROCESS

During the spring of 1989 ORD used SAB's Future Risk report (1), the core research strategy document (6) and SAB's review thereof (5), SAB's report to Congress on the FY90 ORD budget (7), program office input, etc. to provide a document for use by the Agency's research committees when developing requests for research in fiscal year 1991. The document, Assistant Administrator's Interim Guidance FY 1991(8), was distributed to the RSAC members in mid-June, together with the following charge:

"The Agency is asking the SAB to review the Planning Guidance given by the Assistant Administrator for ORD to the EPA staff planning the research program for FY 1991. The SAB should focus on:

1. The balance between core research activities and program support research activities, and
2. The balance among the major components within the core research activities and within the program support research activities."

The RSAC met via conference call on June 22, 1989. The Chair (Alvin Alm) and the executive secretary (Donald Barnes) were present in Washington, D.C. with the following members connected by telephone:

Mr. Richard Conway, Union Carbide, S. Charlestown, WVA
Dr. John Deutch, MIT, Boston, MA
Dr. Raymond Loehr, University of Texas, Austin, TX
Dr. Norton Nelson, NYU, New York, NY
Dr. Jack Spengler, Harvard University, Boston, MA

Absent from the meeting, but supplying comments later, were:

Dr. Stanley Auerbach, Oak Ridge National Laboratory
Dr. Anthony Cortese, Tufts University

Also present at the meeting were Mr. Sam Rondberg from the SAB Staff and various members of ORD at different points throughout the meeting.

A first draft of the RSAC report was circulated to the members of the committee in late June. Responses to the draft were incorporated into a second draft that was provided to members of the Research Strategies Council, which met on July 14, 1989. The RSAC report was approved by the Executive Committee of the SAB in late July.

3. SUBSTANCE

3.1 Overall reaction

The RSAC strongly supports the program laid out in the guidance document. The guidance reflects the major thrusts of recommendations made in previous SAB reports (1,5,7), although the budget request for the core program is considerably lower than that originally envisioned by the Board. While this is regrettable, the RSAC believes that the current proposal is a reasonable one under the circumstances and is consistent with the direction recommended by the SAB. However, a budget reduced below the proposed levels could seriously jeopardize the ability of the EPA to respond to current and emerging environmental problems.

3.2 Response to the charge

3.2.1 The balance between core research and program support research is appropriate.

As noted in Future Risk, for the last decade the Agency has drawn down in its intellectual capital (the fruits of fundamental technical research) to the point that the Agency is in danger of being overdrawn when it tries to respond to the next generation of environmental problems. Consequently, it is imperative that the Agency reestablish a significant program of core research devoted to longer-term investigations into areas meeting the following criteria;

- a. Environmental problems that can be expected to persist for a decade or more;
- b. Investigations which are likely to support a number of existing and/or anticipated Federal, state, or local control programs, whether regulatory or non-regulatory; and
- c. Studies which will provide information unlikely to be generated by the private sector, other parts of the Federal government, or state governments.

ORD has developed such a program, as outlined in its core research program (6), which was reviewed by RSAC last winter (5).

The interim budget guidance contains a balance of roughly 25% for core research and 75% for programmatic research. Given the current situation in which the Agency finds itself, the RSAC has concluded that this balance is appropriate. However, the overall funding level for the core is well below that contained in the document RSAC reviewed last winter (6). The RSAC firmly believes that, even in the face of budgetary constraints, the Agency must retain the integrity of the core research program set forth in the Guidance. A viable core program requires at least this level of commitment.

3.2.2 The balance among the major components within the core research activities and within the program support activities.

Basically, the RSAC endorses the relative emphasis given to different parts of the research program. Obviously, each member of the committee would generate somewhat different distribution patterns among the project areas; but, on balance, the proposal is a sensible one which the committee supports.

Particular concern was voiced about the comparatively small amount of support directed explicitly at risk reduction research. The observation was made that since this is a major theme of the new EPA Administrator, risk reduction should receive greater attention in the research budget. The same concern was expressed in the RSAC review of the core research program (5). The current interim guidance maintains the same relative emphasis on risk reduction research as was noted in that earlier document.

In response, ORD noted that certain risk reduction initiatives can also be found in the "base program" and, arguably, in other parts of the research initiatives budget. However, RSAC notes with concern that the portion of the risk reduction core program (6) dealing with "emerging and future issues" is absent from the guidance document. Since anticipatory research is one of the 10 basic recommendations in Future Risk, it should be included somewhere as a focused activity.

3.3 Additional observations

3.3.1 Compliments to the Agency and ORD

The Agency has responded positively to SAB recommendations. In addition, ORD should be commended on their continuing efforts to develop guidance documents which are clear, succinct, and informative. Obviously a lot of creative, hard work went into the generation of this information.

3.3.2 Items of particular interest

The Committee would like to highlight five specific areas of the guidance document that are particularly important in their view.

a. The Ecological Research Institute

As noted in its previous reports, the SAB believes that the need for an Institute is great and that the time for making a significant commitment in this direction is now. A broad base of scientific input should be obtained to ensure that this initiative is carried forward with maximum support and effectiveness.

b. Risk Reduction Research

The Agency has properly embarked on a major effort to shift from "end-of-pipe" controls to a front-end risk reduction strategy. It is imperative that this new area be supported by fundamental research efforts that will yield rewards in both the near- and long-term.

c. Exposure Assessment

The SAB identified exposure assessment as a key risk assessment area in which fundamental information was lacking. Research in this area holds the promise of having a significant impact on risk assessment outcomes.

d. Grants

One of the major recommendations of Future Risk was to restore credibility to the Agency's investigator-initiated grants program in order to support the fundamental research from which solutions to future problems spring and to attract qualified individuals into an important, manpower-poor area. A viable grants program brings in essential creative ideas from a diversity of disciplines not possible by other means.

e. Technical environment of EPA labs

One consequence of drawing down on the technical capital in the Agency over the past decade has been a decline in the available workforce and in the facilities which support that workforce. The increasingly complex environmental problems facing the country require that Agency rebuild itself into a state-of-the-art facility, properly staffed and properly maintained.

3.3.3 Specific comments from RSAC members

Several RSAC members prepared individual comments on the document; these have been sent separately to the Office of Research and Development for their consideration. The RSAC encourages the Agency to consider these views carefully and revising this report.

3.3.4 Suggestions for additional improvements in preparation of future ORD Guidance documents.

The RSAC identified the following as areas in which the Agency might want to target for improvements in future ORD Guidance documents:

- a. Defining clearly "core research" and "programmatic research".
- b. Highlighting differences between the RSAC-reviewed core research program in the winter and the ORD guidance proposed in the spring.
- c. Showing the anticipated division between intramural and extramural research expenditures.
- d. Identifying significant shifts that are incorporated within the base.
- e. Clarifying the activities of the Institute relative to the rest of the Agency's research program.
- f. Showing how the Agency's research program complements the research being done by other agencies and the private sector.
- g. Identifying explicitly those activities which are designed to anticipate emerging environmental problems.
- h. Improving the useful concept of the summary graphs to have them accurately reflect the budget figures.

4. REFERENCES

1. Future Risk: Research Strategies for the 1990s,
EPA-SAB-EC-88-040, September, 1988.
2. Memorandum from EPA Administrator Lee Thomas to Assistant Administrators, "RE: Steps to Improve Research Support at EPA", September 26, 1988.
3. Memorandum from Administrator Lee Thomas to Dr. Norton Nelson, Chair of SAB Executive Committee, in response to the SAB Research Strategies Committee report, September 26, 1988.
4. Research Strategies Council Charter, January 19, 1989.
5. Review of ORD's Core Research Areas, EPA-SAB-RSAC-89-013, January 31, 1989.
6. ORD's Core Research Program--A Proposal, Draft, Office of Research and Development, December 13, 1988.

Protecting the Environment: A Research Strategy for the 1990's, Draft, Office of Research and Development, April 1989.
7. Review of the Fiscal 1990 President's Budget for Research and Development, EPA-SAB-89-014, March 16, 1989.
8. Assistant Administrator's Interim Guidance for Fy 1991, Office of Research and Development, June 1989.