

MEMORANDUM TO MEMBERS OF THE NATIONAL SCIENCE BOARD

SUBJECT: Summary Report of the May 25-26, 2005 Meeting

The major actions of the National Science Board (NSB, the Board) at its 386th meeting on May 25-26, 2005 and a preliminary summary of the proceedings are provided. This memorandum will be publicly available for any interested parties to review. A more comprehensive set of NSB meeting minutes will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>) following Board approval at the August 2005 meeting.

1. Major Actions of the Board (not in priority order)

- a. The Board approved the minutes of the Plenary Open Session (NSB-05-47) for the March 2005 meeting of the NSB (http://www.nsf.gov/nsb/meetings/2005/0305/open_min.pdf). Minutes for the Plenary Executive Closed and Closed Sessions for the March 2005 meeting of the NSB were also approved.
- b. The Board approved a resolution to close portions of the upcoming August 10-11, 2005 NSB meeting on staff appointments, future budgets, pending proposals/awards for specific grants, contracts, or other arrangements, and those portions dealing with specific Office of the Inspector General investigations and enforcement actions, or agency audit guidelines (NSB-05-49) (Attachment 1).
- c. The Board approved the Annual Report of the Executive Committee as presented by the committee chairman, Dr. Arden L. Bement, Jr., NSF Director (NSB/EC-05-8) (Attachment 2).
- d. The Board approved a schedule of meetings for calendar year 2006 (NSB-05-51) (Attachment 3) and asked Dr. Michael Crosby, Executive Officer, to report at the August 2005 meeting on candidate locations for the February 2006 annual retreat and site visit.
- e. Dr. Delores Etter and Dr. Barry Barish were re-elected to 2-year terms as members of the Executive Committee.
- f. The Board approved added language on the directorate-level standardized memorandum transmitting Board Member proposals to the Board for review (Attachment 4).
- g. The Board approved the transmittal letter and management response for the Office of Inspector General semiannual report.

- h. The Board endorsed the NSB Chairman proceeding to plan, with the Office of Science and Technology Policy (OSTP), for a Joint NSB-PCAST (President's Council of Advisors on Science and Technology) Roundtable Discussion on Federal-State Policies for Research and Development (R&D).
- i. The Board endorsed the establishment of a distinguished Commission on Precollege Math and Science Education, in order for the Board to provide the President and Congress advice about the role of the National Science Foundation and the Federal government in this area. Drs. Diana Natalicio and Elizabeth Hoffman will work with Dr. Crosby to develop a draft charge for this NSB Commission on Math and Science Education, and present the draft to the Board in August 2005.
- j. The Board approved a letter in response to Congressman Vernon Ehlers on science, technology, engineering, and mathematics (STEM) education (NSB-04-70) (Attachment 5).
- k. The Board approved the recommendation of the Education and Human Resources Committee for the Board-sponsored "Workshop on Engineering Workforce Issues and Engineering Education: What are the Linkages," to be held at the Massachusetts Institute of Technology on October 20, 2005.
- l. The Board approved the topic for the companion piece to *Science and Engineering Indicators 2006*, focusing on K-12 education.
- m. The Board approved a resolution that supports the NSF Director taking all necessary steps to meet the requirements for polar icebreaking among available options to best meet the needs of the research community in the most cost effective manner. (NSB-05-68) (Attachment 6).
- n. The Board approved a new priority order for new start Major Research Equipment and Facilities Construction (MREFC) projects, in the following order beginning with highest priority: Alaska Region Research Vessel, National Ecological Observatory Network, Ocean Observatories Initiative, and Advanced Laser Interferometer Gravitational-Wave Observatory (LIGO).
- o. The Board approved *Setting Priorities for Large Research Facility Projects Supported by the National Science Foundation* (NSB-05-77) (http://www.nsf.gov/nsb/documents/2005/settings_priorities.pdf); subject to final editorial changes approved by the NSB Chairman and Committee on Programs and Plans (CPP) chairman.
- p. The Board approved *Long-Lived Digital Data Collections: Enabling Research and Education in the 21st Century* (NSB-05-40) (http://www.nsf.gov/nsb/documents/2005/LLDDC_report.pdf); subject to final editorial changes approved by the NSB Chairman and CPP chairman.

- q. The Board approved the *National Science Foundation Facility Plan*, dated May 2005; subject to final edits identified by the Board. Final plan will be posted on the NSB Web site when final edits are completed and approved by the NSB Chairman and CPP chairman.
- r. The NSB Chairman discharged the *ad hoc* Committee for the Vannevar Bush Award and the *ad hoc* Committee on Nominating for NSB Elections.

2. NSB Chairman's Report

Dr. Warren Washington, NSB Chairman, shared the results of the Executive Committee elections. Drs. Barish and Etter were re-elected to the Executive Committee, each for a 2-year term.

Dr. Washington asked Dr. Crosby to report on the development of an NSB Commission on Precollege Education in Mathematics, Science, and Technology. At the request of Congress, the Board will establish a new Commission similar to the 1982-1983 Commission on Precollege Education in Mathematics, Science, and Technology. During the 1980s, the Board established a Commission to focus on the role of NSF in K-12 math and science education. The new Commission would build on this earlier work. Drs. Natalicio and Hoffman will work with Dr. Crosby to develop a draft charge for this new NSB Commission on Math and Science Education, and present the draft to the Board at the August NSB meeting.

The Board endorsed working with OSTP on plans for a Joint NSB-PCAST Roundtable Discussion on Federal-State Policies for R&D.

With the Board's approval of the meeting schedule for 2006 ([NSB-05-51](#), Attachment 3), the Chairman asked Dr. Crosby to develop a short list of candidate locations for the 2006 annual retreat and site visit to an NSF-supported facility, and to present the list at the August 2005 NSB meeting.

Dr. Washington described the annual Awards Dinner held on May 25 at the U.S. Department of State, and stated that it was a pleasure to recognize the distinguished contributions of individuals and organizations to the advancement of science. The Board was honored to receive a message from the President, George W. Bush. The following recipients were recognized:

- Mr. Robert W. Galvin, Chairman and CEO (Retired) of Motorola, Inc. received the Vannevar Bush Award;
- Dr. Dalton Conley, Professor of Sociology and Public Policy and Director, Center for Advanced Social Sciences Research, New York University, received the Alan T. Waterman Award;
- Mr. Ira Flatow, Host and Executive Producer of *Talk of the Nation: Science Friday*, received the individual NSB Public Service Award; and
- Computer Research Association's Committee on the Status of Women in Computing Research, received the group NSB Public Service Award.

The Chairman discharged the *ad hoc* Committee for the Vannevar Bush Award with thanks to the chairman, Dr. Kenneth Ford, and committee members, Drs. Steven Beering, Ray Bowen, Wayne Clough, Daniel Hastings, and Kathryn Sullivan. The Chairman also discharged the *ad hoc* Committee on Nominating for NSB Elections with thanks to the chairman, Dr. Hastings, and committee members, Drs. Ford, Michael Rossmann, and Jo Anne Vasquez.

Dr. Washington recognized Mr. William Noxon, Senior Public Affairs Specialist with NSF's Office of Legislative and Public Affairs. On behalf of the Board, Dr. Washington thanked Mr. Noxon for his many years of support to NSB and wished him well in his retirement.

Dr. Washington announced recent honors bestowed upon the following Board Members:

- Drs. Barry Barish and Alan Leshner, who were newly elected members of the 225th Class of Fellows and Foreign Honorary Members of the American Academy of Arts and Sciences;
- Dr. Kathryn Sullivan, who, with her fellow women astronauts from the 1978 NASA shuttle class, was named 2004 Laurel Legends by Aviation Week and Space Technology for the 48th Annual Aerospace Laurels;
- Dr. Jo Anne Vasquez, who was appointed to the NASA Education Board.

Dr. Natalicio announced the recent publication of Dr. Washington's book, *An Introduction to Three-Dimensional Climate Modeling* (Second Edition).

3. NSF Director's Report

Dr. Arden Bement, NSF Director, reported that Dr. Katherine Olsen, OSTP Associate Director, had been nominated by the President to become the new NSF Deputy Director, replacing outgoing Dr. Joseph Bordogna. He noted that NSF has been very fortunate to have Dr. Bordogna for the past 14 years, 6 of those years as NSF Deputy Director, which makes him the longest-serving deputy in NSF history.

Dr. Bement announced the following new NSF staff position: Ms. Shirl Ruffin, Director, Division of Financial Management and Deputy Chief Financial Officer.

The Director also reported that the House Science, Commerce, Justice, and State Department Appropriations Subcommittee had developed the initial FY 2006 budget mark-up for the agencies under its jurisdiction. Under the initial budget mark-up, NSF's budget would be increased \$171 million over last year and \$38 million above the request, and education and human resources will be increased to \$807 million, \$70 million above the request.

The House appropriators approved NSF's plan for allocating the 2005 appropriations, but the Senate Commerce, Justice and Science Appropriation Subcommittee proposed adjusting the funding levels for the research directorates. Because the responses of the

two subcommittees were not identical, NSF was waiting for the subcommittees to respond on how to reconcile the differences.

The following bills of interest to NSF were introduced since the last Board meeting. S. 767: National Food and Agricultural Science Act of 2005; S. 770: National Aquatic Invasive Species Act of 2005.

4. NSB Committee Reports

a. Audit and Oversight (A&O) Committee

A&O Open Session

Dr. Christina Boesz, NSF Inspector General, discussed the Office of Inspector General (OIG) Semiannual Report (March 2005) and Dr. Bruce Umminger, Senior Scientist, Office of Integrated Activities (OIA), presented the management response with data tables. The committee approved the transmittal letter to Congress and recommended approval by the full Board. *[The full Board subsequently approved the transmittal letter and management response.]*

Dr. Delores Etter updated the committee on the *ad hoc* Task Group on NSF Vision document and next steps, including discussion with NSF senior staff before the August Board meeting.

Dr. Crosby presented a draft outline of the congressionally requested review of the NSF merit review system and a process for the Board Office to prepare the draft report for A&O review. Several edits were recommended to the review outline, and the process was approved by the committee. Dr. Dan Arvizu agreed to work with Dr. Crosby to develop the draft report for the A&O Committee meeting in August, with finalization envisioned at the September meeting.

Ms. Deborah Cureton, Associate IG for Audit, presented information on the “Sarbanes-Oxley Act” (SOX) (officially the American Competitiveness and Corporate Accountability Act) and its implications for NSF. The most significant implications are in the area of management certified financial statements and control environment. In response to SOX, the Office of Management and Budget (OMB) announced that Federal agencies, including NSF, would be required to conduct a more rigorous assessment of their controls and prepare separate assurance report in FY 2006.

Mr. Thomas Cooley, NSF Chief Financial Officer, discussed the agency’s plans to implement the internal controls required by government-wide OMB Circular A-123, effective in FY 2006. Mr. Cooley also described the considerable progress made on addressing reportable conditions of the FY 2004 audit. Mr. Dan Kovlak, KPMG, agreed with Mr. Cooley that much progress was achieved, but said that the plan, once final, must still be implemented and tested by the agency’s auditors.

A&O Closed Session

OIG presented information about an ongoing audit and several ongoing investigations.

b. Committee on Programs and Plans (CPP)

CPP Open Session

Dr. Delores Etter, chair, *ad hoc* Task Group on NSF Vision, described the guidance needed by CPP to conceptualize and draft a new vision for NSF in the 21st century. CPP's guidance would focus on articulating the next bold cutting-edge areas of research, near and long-term program priorities, as well "grand challenges" from different research areas.

Dr. Simberloff, CPP chairman, provided the committee with an update on the stages of efforts to update the Board's 2001 report, *Towards a More Effective Role for the U.S. Government in International Science and Engineering* (NSB-01-187). Drs. Diana Natalicio and Jane Lubchenco agreed to work with Dr. Crosby to develop a draft charge for a Board task force to lead this effort and agreed to serve on the task force; additional Members are needed to serve on the task force.

Dr. Rossmann summarized the status of the draft NSB report *Long-Lived Digital Data Collections (LLDDC): Enabling Research and Education in the 21st Century* (NSB-05-40). The public comments received on this draft report indicated that the report was broadly welcomed, underlined the urgency of the issues, and emphasized the need for leadership by NSB and NSF. CPP approved a recommendation to the Board that the report should be approved for publication, subject to any final, minor revisions that may be required prior to publication. [*The full Board subsequently approved the LLDDC report, subject to final edits.*] CPP also approved a recommendation to the Board that NSF be asked to develop a strategy for addressing the recommendations of the LLDDC report and report to the Board at its September meeting with a proposed strategy for implementing them.

Dr. Margaret Leinen, Assistant Director, Directorate for Geosciences (GEO), provided the committee with an update on issues related to environmental research and education. In her presentation she discussed the evolution of the NSF priority area of Biocomplexity in the Environment, which is scheduled to end as a priority area in FY 2007. She provided members with a copy of the recently released report from the NSF Advisory Committee for Environmental Research and Education (AC-ERE), *Complex Environmental Systems: Pathways to the Future*.

The next item on the agenda, the process for sending information and actions to CPP and NSB, was delayed until the August meeting to give NSF more time to comment on this proposed new process.

Dr. Bement gave a presentation on NSF's cyberinfrastructure vision for 21st century discovery. NSB had asked for a plan for High Performance Computing (HPC); NSF provided a broader vision. The vision includes: leadership class computational systems and services, software and services, world-class data management systems, and

comprehensive community and collaborative services. It was noted that a cyberinfrastructure office and director were to be organized and appointed in the coming months. Dr. Bement emphasized that he had a transitional plan he was ready to put into place, but NSF needed to move to expend funds that will be available in FY 2005 and FY 2006. However, CPP first needed time to review and comment on the draft strategy. It was agreed that CPP would organize a teleconference within the next 2-4 weeks to discuss the report, and provide CPP input and comments. CPP and Dr. Bement agreed that it was essential for the committee to provide input into the report and process prior to implementation. Further discussion and approval of a final report is expected to be on the CPP agenda in August.

Dr. Simberloff drew members' attention to the preliminary revised draft of the NSB report, *Setting Priorities for Large Research Facility Projects Supported by the National Science Foundation*, and asked Dr. Crosby to summarize the revisions that were made. After discussion, the report was approved by CPP. *[The full Board subsequently approved the report, subject to final edits.]*

Dr. Simberloff then drew members' attention to the *National Science Foundation Facility Plan*, and introduced Dr. Bordogna, NSF Deputy Director. Dr. Louis Lanzerotti pointed out that the *Setting Priorities* report and the *Facility Plan* needed to be linked through references to one another. Dr. Bordogna assured committee members that this would be done now that the *Setting Priorities* document was finalized. Dr. Bordogna also stated that an accompanying guide should be done by mid-summer. The *Facility Plan*, with the changes as discussed in the meeting, was approved for publication. *[The full Board subsequently approved the NSF Facility Plan, subject to final edits.]*

Dr. Simberloff reviewed the process for reexamining the priority order for new start MREFC projects, which was conducted in the CPP Executive Closed and Closed Sessions.

CPP Executive Closed and Closed Sessions

Three information items and two information items were discussed.

The committee, following a process described in the CPP Open Session, reexamined the priority order for new start MREFC projects. After careful deliberation, CPP approved a recommendation to the full Board for the following priority order for new start MREFC projects: Alaska Region Research Vessel, National Ecological Observatory Network, Ocean Observatories Initiative, Advanced Laser Interferometer Gravitational-Wave Observatory (LIGO). *[The full Board subsequently approved the new priority order for new start MREFC projects.]*

. CPP Subcommittee on Polar Issues (SOPI)

SOPI Open Session

Dr. John White, SOPI chairman, proposed a resolution that encourages the NSF Director to take “all necessary steps to meet the requirements for polar icebreaking among available options to best meet the needs of the research community in the most cost effective manner.” CPP approved forwarding a resolution to the full Board. [*The full Board subsequently approved the resolution, Support to NSF Director for Polar Icebreaking Issues. (NSB-05-68) (Attachment 6)*]

SOPI Closed Session

The subcommittee discussed future budget implications of the transfer of icebreaker operations and maintenance funding from the U.S. Coast Guard to NSF.

d. CPP Task Force on Transformative Research (TR)

On behalf of Dr. Nina Fedoroff, TR chair, Dr. Kelvin Droegemeier led the discussion on a draft agenda for an upcoming workshop in August 2005, which will be NSF-focused. The task force agreed on the need for clear articulation of the workshop goals, and several modifications to the order and length of workshop sessions.

e. Committee on Strategy and Budget (CSB)

CSB Open Session

CSB reviewed and discussed the draft vision statement put forward by the *ad hoc* Task Group on NSF Vision, and focused on topics such as the unique role of the NSF and the current context of budgetary constraint. The committee heard a presentation on the key features of the background materials contained in the long-range planning notebook, a notebook that has been produced annually since 1990 for the National Science Board.

CSB Closed Session

The committee held preliminary discussions of the NSF budget for FY 2007.

f. CPP and CSB Joint Session

The Joint Session of CPP and CSB examined two sets of issues: the portfolio balance of centers and individual investigator awards; and the relationship among the variables of proposal funding rates, award size, and award duration. The joint session heard two separate presentations from NSF staff to supplement the significant data provided in tables and charts prior to the meeting. The first presentation gave a brief history of the NSF centers portfolio, and the second focused on the observed trends in proposal submissions, funding rates, award size, and award duration.

g. Executive Committee (EC)

EC Open Session

The committee endorsed the transmittal memorandum for proposed awards to NSB Members that would be sent from NSF Directorate Assistant Directors to the NSB Office Director. The revised memorandum included added language on the directorate-level standardized memo to reflect that “the review and decision-making processes for an award recommendation were not influenced by the fact that a proposal involves a Board Member.” [*The full Board subsequently approved the added language on the proposed award memorandum.*] (Attachment 4)

The committee endorsed the Executive Committee Annual Report as presented by Dr. Bement, EC chairman, and recommended the report to the Board for approval. [*The full Board subsequently approved the Annual Report of the Executive Committee.*] (NSB/EC-05-8) (Attachment 2)

Dr. Bement, EC Chairman, reported on the topic of U.S. deemed export controls and the International Institute for Applied Systems Analysis.

EC Closed Session

The committee voted to bring two Member proposals before the Board for approval. [*The full Board subsequently approved one Member proposal and returned one Member proposal to the directorate for further review.*] Also, during EC Closed Session, Dr. Bement informed members on the status of several executive staff searches and budget issues.

h. Education and Human Resources (EHR) Committee

The EHR committee discussions focused on recent congressional requests for Board action.

As part of the ongoing review on the topic of the integration of research and education at NSF, the committee heard presentations from two NSF directorates: Computer and Information Science and Engineering (CISE), and Geosciences (GEO).

The committee approved a work plan for recommendation to the Board for an NSB-sponsored “Workshop on Engineering Workforce Issues and Engineering Education: What are the Linkages?” The workshop would be held on October 20, 2005 at the Massachusetts Institute of Technology (MIT). [*The full Board subsequently approved the recommended work plan.*]

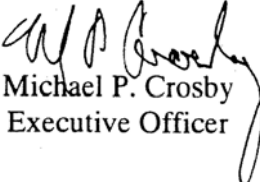
The committee modified and approved for transmittal to the full Board a draft letter in response to Congressman Vernon Ehlers request of March 29, 2005 to the Board to delineate the priority of programs within the NSF EHR Directorate on science, technology, engineering, and mathematics (STEM) education. [*The full Board subsequently approved the letter in response to Congressman Ehlers. (NSB-05-70) (Attachment 5)*]

i. EHR Subcommittee on Science and Engineering Indicators (SEI)

The subcommittee agreed to make a motion that: the EHR committee approve a recommendation to the full Board for the preparation of an NSB Companion Piece on the topic of K-12 education. This document will be published with *Science and Engineering Indicators 2006*. [*The full Board subsequently approved the “K-12 education” topic for the Companion Piece.*]

Dr. Crosby reported that, at the direction of the SEI chairman and the NSB Chairman, the Board Office had begun working with two external contractors to undertake a thorough assessment of *Science and Engineering Indicators 2006*. He indicated that a major focus of this effort would be to examine ways to enhance utility to the user community, both by presenting data in a manner more accessible to those who are not sophisticated with statistics, and to explore new indices and data series that may be useful to an expanded user audience.

The Subcommittee reviewed five draft chapters of Science and Engineering Indicators 2006—Higher Education; Science and Engineering Labor Force; R&D: Funds and Technology Linkages; Academic R&D; and Industry, Technology, and the Global Marketplace.


Michael P. Crosby
Executive Officer

Attachment 1: NSB-05-49

Attachment 2: NSB/EC-05-8

Attachment 3: NSB-05-51

Attachment 4: Board Member Proposal Transmittal Memorandum

Attachment 5: NSB-05-70

Attachment 6: NSB-05-68

NSB-04-49
March 29, 2004

MEMORANDUM TO MEMBERS THE NATIONAL SCIENCE BOARD

Subject: Closed Session Agenda Items for August 4 - 5, 2004 Meeting

The Government in the Sunshine Act requires formal action on closing portions of each Board meeting. The following are the closed session agenda items anticipated for the August 4 - 5, 2004 meeting.

1. Staff appointments
2. Future budgets
3. Grants and contracts
4. Specific Office of Inspector General investigations and enforcement actions

A Proposed resolution and the General Counsel's certification for closing these portions of the meetings are attached for your consideration.

/signed/
Michael P. Crosby
Executive Officer

Attachments (2)

PROPOSED
RESOLUTION
TO CLOSE PORTIONS OF
381st MEETING
NATIONAL SCIENCE BOARD

RESOLVED: That the following portions of the meeting of the National Science Board (NSB) scheduled for August 4 - 5, 2004 shall be closed to the public.

1. Those portions having to do with discussions regarding nominees for appointments as National Science Board members and National Science Foundation (NSF) staff appointments, or with specific staffing or personnel issues involving identifiable individuals. An open meeting on these subjects would be likely to constitute a clearly unwarranted invasion of personal privacy.
2. Those portions having to do with future budgets not yet submitted by the President to the Congress.
3. Those portions having to do with proposals and awards for specific grants, contracts, or other arrangements. An open meeting on those portions would be likely to disclose personal information and constitute a clearly unwarranted invasion of privacy. It would also be likely to disclose research plans and other related information that are trade secrets, and commercial or financial information obtained from a person that are privileged or confidential. An open meeting would also prematurely disclose the position of the NSF on the proposals in question before final negotiations and any determination by the Director to make the awards and so would be likely to frustrate significantly the implementation of the proposed Foundation action.
4. Those portions having to do with specific Office of the Inspector General investigations and enforcement actions, or agency audit guidelines.

The Board finds that any public interest in an open discussion of these items is outweighed by protection of the interests asserted for closing the items.

CERTIFICATE

It is my opinion that portions of the meeting of the National Science Board (NSB) or its subdivisions scheduled for August 4 – 5, 2004 having to do with nominees for appointments as NSB members and National Science Foundation (NSF) staff, or with specific staffing or personnel issues or actions, may properly be closed to the public under 5 U.S.C. § 552b(c) (2) and (6); those portions having to do with future budgets may properly be closed to the public under 5 U.S.C. § 552b(c) (3) and 42 U.S.C. 1863(k); those portions having to do with proposals and awards for specific grants, contracts, or other arrangements may properly be closed to the public under 5 U.S.C. § 552b(c) (4), (6), and (9) (B); those portions disclosure of which would risk the circumvention of a statute or agency regulation under 5 U.S.C. § 552b(c) (2); and those portions having to do with specific Office of the Inspector General investigations and enforcement actions may properly be closed to the public under 5 U.S.C. § 552b(c) (5), (7) and (10).

/signed/

Lawrence Rudolph
General Counsel
National Science Foundation

**2004 Annual Report of the Executive Committee
National Science Board**

In accordance with the requirements of Section 7(d) of the National Science Board (NSB) Act of 1950, as amended, I hereby submit this annual report of the NSB Executive Committee, as approved at the Executive Committee meeting on May 25, 2005. This report covers the period from May 2004 through April 2005. I have served as Director of the National Science Foundation (NSF) and NSB Executive Committee chairman during the above time period.

The elected membership of the Executive Committee during the past year was Dr. Warren M. Washington, Dr. Diana S. Natalicio, and Dr. Delores M. Etter. Dr. Barry C. Barish replaced Dr. Robert C. Richardson during August 2004. Dr. Michael P. Crosby, NSB Executive Officer and NSB Office Director, served as Executive Secretary.

The Executive Committee met six times during this period: five meetings at NSF in Arlington, Virginia and one meeting on the campus of the University of Texas at El Paso. Oral reports of its activities were made at meetings of the full NSB and are reflected in the minutes of those meetings.

During this period, the Executive Committee took no actions on behalf of the NSB.

Arden L. Bement, Jr.
Chairman
Executive Committee

NSB Meeting Dates for Calendar Year 2006

February 9 – 10
(Thursday - Friday)
[Annual Retreat/Site Visit]

March 29 – 30
(Wednesday - Thursday)

May 9 – 10
(Tuesday - Wednesday)
[Annual Meeting and Awards Dinner]

August 9 – 10
(Wednesday - Thursday)

September 27 – 28
(Wednesday - Thursday)

November 29 – 30
(Wednesday - Thursday)

S A M P L E

[Month Day, Year]

MEMORANDUM

TO: Dr. Michael P. Crosby
NSB Executive Officer and NSB Office Director

THROUGH: Dr. Arden L. Bement
NSF Director

FROM: xxxx
Assistant Director, [Name of Directorate]

SUBJECT: Proposed Award to NSB Member

The attached material provides information to the National Science Board (NSB, Board) that supports a recommended award to a principal investigator who is an NSB Member.

The proposal [#] was submitted by and is under the direction of [Board Member name and institution]. In correspondence dated [date], [university] designated [name] as substitute negotiator with authority to negotiate with the National Science Foundation on behalf of Dr. [Board Member name] in matters related to this proposal/grant while Dr. [Board Member name] is a Member of NSB. The Division of [name] has recommended a [duration] award in the amount of \$[dollar amount].

On behalf of the program officer and division director, I verify that our review and decision-making processes for making this recommendation were not influenced by the fact that this proposal involves a Board Member.

Attachments

May 26, 2005

The Honorable Vernon J. Ehlers
House of Representatives
Washington, DC 20515-0001

Dear Mr. Ehlers:

Thank you for your letter of March 29, 2005 in which you requested that the National Science Board (NSB, the Board) delineate the priority of programs within the Education and Human Resources portion of the National Science Foundation (NSF) Budget, to help Congress to focus any additional funds for NSF back to education, should they become available. The Board appreciates your continuing strong support for the NSF's role in Science, Technology, Engineering and Mathematics (STEM) education. The Board is, like you, concerned by the decline in funding for education in the NSF budget. We agree with you that such cuts would undermine the NSF's role in education in STEM fields at a time when STEM skills are becoming increasingly vital to the continued security and prosperity of our Nation.

NSF is unique as the only Federal agency with both science research and science education in its charter. The programs in the NSF Education and Human Resources directorate are designed to support and improve U.S. STEM education at all levels and in all settings (both formal and informal). These programs are unique in their capacity to identify and study the most promising ideas for math and science education, to develop new and improve materials and assessments, to explore new uses of technology to enhance K-12 instruction, and to create better teacher training techniques. The results of NSF supported research can then be transferred into practice. NSF's highly-regarded peer review system that enlists leading scientists, mathematicians, engineers, and academicians to improve K-12 STEM education programs is at the center of this education improvement infrastructure.

The proposed NSF FY 2006 budget begins an end to the commitment for large experimental programs in the Math and Science Partnership (MSP) program, which builds on NSF experience in large-scale precollege and preservice experiments. The proposed budget also reduces critical areas of education research and undergraduate education. You have asked for the Board's priorities for education, should funding become available to restore some of the cut programs. Of the three major areas, all of which contain experimental programs to advance STEM learning, clearly, retaining the MSP program in NSF is the highest priority. Large scale, sustained experiments like the MSPs are crucial for developing models of excellence in STEM education, linking precollege and college, and providing other links to the community and the workforce.

NSF has the mandate, depth of experience under its Systemic Initiatives and other large-scale multifaceted education activities, and well-established relationships to build such partnerships for excellence in K-12 STEM education.

In 1983, the NSB Commission on Precollege Education in Science, Mathematics and Technology published its recommendations for U.S. students to become first in the world in science, mathematics and technology. Most of the recommendations of this report are still relevant today. Some progress has been made in precollege STEM education through research and implementation of model programs, but much more is needed. As a workforce with basic STEM skill has become ever more essential to American economic prosperity and national security, it is now critical to our future that our precollege education system is prepared to perform its essential role in U.S. STEM education. Today it clearly is not.

Certainly, world class STEM education is a moving target, as science and technology advances and as other nations raise the bar for STEM education in their own precollege systems. The Board therefore has determined, in response to requests from the Congress and other stakeholders, to undertake an update of the 1983 Commission report.

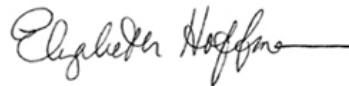
The Board is hopeful that our Nation is ready to implement an aggressive, research-based program in precollege STEM education. Within the framework of No Child Left Behind legislation, it is critical that U.S. education systems implement research-based strategies to improve STEM learning, with the goal of international leadership in precollege STEM education. It is also critical that we build on and continue the long-term research in K-12 education sponsored by NSF.

We thank you for your efforts on behalf of NSF, and we offer our further assistance in any way that would be helpful.

Sincerely,



Warren M. Washington
Chairman, National Science Board



Elizabeth Hoffman
Chair, EHR Committee, NSB

RESOLUTION

NATIONAL SCIENCE BOARD

SUPPORT TO NSF DIRECTOR FOR
POLAR ICEBREAKING ISSUES

WHEREAS the research supported by NSF in polar regions depends heavily on polar icebreakers, both as research platforms and to enable transportation of cargo and fuel to the U.S. research stations at McMurdo Sound and at the South Pole in Antarctica; and

WHEREAS that research is critical for understanding phenomena of global importance, including climate change, and polar regions offer unique opportunities for forefront research in a broad range of disciplines; and

WHEREAS the two Coast Guard polar class icebreakers that support McMurdo and South Pole supply are nearing the end of their design lifetimes and would require substantial costly upgrades within the next few years to keep them operational; and

WHEREAS the Administration has proposed that NSF assume responsibility for polar icebreaking operations in FY 2006 and beyond; and

WHEREAS the Administration and Congress have encouraged consideration of alternatives to the status quo;

Therefore, be it RESOLVED, that the National Science Board supports the NSF Director taking all necessary steps to meet the requirements for polar icebreaking among available options to best meet the needs of the research community in the most cost effective manner.



Warren M. Washington
Chairman

* Previously dated incorrectly as March 26, 2005