

Documents

NSB-99-63

Revised April 7, 1999

MEMORANDUM TO: National Science Board Members and Consultants

SUBJECT: Preliminary Report of the March 25, 26, 1999 Meeting

The major actions of the Board at its 352nd meeting on March 25, 26, 1999, are summarized for the information of those members and consultants absent and as a reminder to those present. This revised summary includes information on the recipients of honorary awards for 1999, the Task Force on the Environment that held its meeting following the NSB meeting, and the 50th Anniversary Task Force.

1. Board Actions

- a. The Board approved the Closed and Open Session minutes of the November, 1998 meeting.
- b. The Board approved a new Program, the Computer Science, Engineering and Mathematics Scholarships (CSEMS) Program (NSB 99-54). These scholarships will be administered through competitive grants to colleges and universities, including community colleges. Eligibility will be limited to U.S. citizens, nationals, or aliens admitted as refugees, and student stipends will have an upper limit of \$2,500 per year. The Program will be managed by the Directorate for Education and Human Resources. Funding will be derived from fees collected by the U.S. Department of Labor in connection with H1B visa applications, and is anticipated at \$21,000,000 for FY 1999, with additional funds available in FY 2000 and FY 2001.
- c. The Board approved a resolution (NSB 99-62) commending the U.S. Navy on the completion of forty years of support for the U.S. Antarctic program.
- d. The Board approved four honorary awards for 1999, as recommended by the selection committees, as follows:
 - Alan T. Waterman Award to Dr. Chaitan S. Khosla, Associate Professor, Department of Chemical Engineering, Stanford University
 - Vannevar Bush Award to Dr. Maxine F. Singer, President, Carnegie Institution of Washington
 - NSB Public Service Award: Group, to the television program "Bill Nye the Science Guy," KCTS, Seattle, Washington; Individual, to Dr. Steven J. Gould, Museum of Comparative Zoology, Harvard University.

Awards

The Board approved the following awards: Amount not to exceed

Office of the Director

Office of Polar Programs

A Request for Proposals and contract award \$70,000,000 for 60 months
to obtain services for logistic and research
support for NSF-funded research projects conducted
throughout the Arctic (NSB 99-39)

Mathematical and Physical Sciences

Office of Multidisciplinary Activities
Cornell Electronic Storage Ring (CESR) Facility \$88,183,000 for 54 months
Cornell University
(NSB 99-41)

Division of Materials Research:

Cornell High Energy Synchrotron Source (Amendment) \$16,481,000 for 60 months
Cornell University
(NSB 99-60)

Education and Human Resources

Division of Educational System Reform

Houston Urban Learning Initiatives in a Networked Community (HU-LINC) \$15,000,000 for 60 months;
Houston Independent School District,
Houston, Texas not to exceed \$2,000,000 in year one

2. NSB Committees

The Chairman discharged with appreciation three committees:

- The EHR Task Force on Achievement in Science and Mathematics (TIMSS), chaired by Dr. Gaillard, with members Drs. Mitchell-Kernan, Rubin and Tapia, and Executive Secretary Dr. Daryl Chubin;
- The Committee on NSB Nominees for 2006, chaired by Dr. Menger, with members Drs. Armstrong, Greenwood and Washington, and Executive Secretary Mrs. Susan Fannoney;
- The 1999 Vannevar Bush Award Committee, chaired by Dr. Greenwood, with members Drs. Jones, Tapia and Washington, and Executive Secretary Mrs. Fannoney. He established two committees:
- The [Task Force on International Issues in Science and Engineering](#), chaired by Dr. Natalicio, with members Drs. Ferguson, Gaillard, Jaskolski and Sequeira, and Drs. Erb and Wong of NSF, with Dr. Frances Li of the Division of International Programs as Executive Secretary;
- The [Committee on Strategic Science and Engineering Policy Issues](#), chaired by Dr. Kelly, with members Drs. Armstrong, Greenwood, Jones, Miller, Mitchell-Kernan, Richardson and Solow, with Ms. Jean Pomeroy of the NSB Office as Executive Secretary.

Committee Reports

a. Executive Committee

The Executive Committee reviewed plans for the revision of the NSF Strategic Plan and for the preparations for the May NSB Annual meeting, including the election of two members of the Executive Committee. The committee also heard a report from the Director on the status of the FY 2000 budget discussions and the planning for the FY 2001 budget.

b. Audit & Oversight (A&O)

Dr. Bordogna gave a briefing on NSF's review and recommended revisions to its Cost Sharing Policy. A formal presentation and approval item will be provided the full Board at the May meeting. Mr. Kull (Chief Financial Officer) and Mr. Sunshine (Acting Inspector General) jointly reported on the NSF FY98 Financial Statements and Audit. The agency received a "clean" (unqualified) opinion. Dr. Sunley provided an update on NSF efforts to meet the various GPRR reporting requirements. More discussion is planned at the May A&O meeting. Dr. Sunley also provided an update on the status of the Federal Research Misconduct Policy being developed through OSTP. Staff provided an update on NSF's FastLane system. Dr. Pitts and Dr. Bridgewater provided highlights of the annual Merit Review System statistical report for FY98. Mr. Sunshine gave a quick briefing on the role and function of the Office of Inspector General for the benefit of the new members of the Committee.

c. Education and Human Resources (EHR)

In two action items, the Committee unanimously recommended awards for the Houston Urban Systemic Initiative and for the establishment of the Computer Science, Engineering and Mathematics Scholarship Program. The Committee was briefed on the NSF Graduate Teaching Fellows in K-12 Education Program and heard an update on the preparation of the EHR hearings summary report. With respect to the latter, the Committee requested a second draft of the report which, after Committee input, will be followed by a draft to be discussed at the next meeting.

The Committee was given an update on the NSB report entitled "Preparing Our Children: Math and Science Education in the National Interest," and on Science and Engineering Indicators. The Committee discussed a draft framework for the NSB/EHR Committee priorities and workplan as part of its consideration of the EHR Strategic Plan. The framework will be refined and further discussion will take place at the next meeting.

d. Programs and Plans (CPP)

Reports were received from two task forces. The Environment Task Force reported on extensive activities to ensure broad input into task force deliberations -- through public meetings electronic communications, and continued collection and analysis of published reports. The task force continues to meet frequently to discuss a range of options for how to address challenges in environmental research. The Polar Issues Task Force reported on its discussion of a proposed Request for Proposals for Arctic research support and logistics. The task force also heard presentations on developments in polar science and operations in the Arctic and Antarctica.

At the recommendation of the Polar Issues Task Force, the Committee endorsed a resolution, for consideration by the national Science Board, commending the U.S. Navy on the completion of forty years of support for the U.S. Antarctic program.

The Committee reviewed and approved three action items: Request for Proposals and Award of a Contract for Arctic Research Support and Logistics; Support for the Cornell Electron Storage Ring (CESR) Facility; and the Cornell High Energy Synchrotron Source (CHESS) Amendment.

The Committee received a presentation on Planning for Scientific Ocean Drilling; Post 2000, which summarized national and international planning for ocean drilling after the end of the current Ocean Drilling Program. The Committee received but did not discuss a written information item on the U.S./Mexico Foundation for Science.

The Committee received presentations on current activities within NSF for infrastructure planning, operations and management, including a brief update on the list of potential future projects, a summary of preliminary recommendations from a staff working group on large research infrastructure, and a look at some initial thinking on new approaches to defining and funding infrastructure.

e. Polar Issues

Dr. Erb, Director of the Office of Polar Programs, discussed the recent release of the OPP opportunity announcement for research on Arctic contaminants which would be linked to the program of the Arctic council; a recent retreat by the Office of Polar Programs identifying common needs across the programs; and recent completion of a meeting of ministers from all Antarctic Treaty signatories with 60 representatives on the Ice. He noted a recent meeting of the Arctic Council. The Task Force heard reports on: an RFP for Arctic Research Support and Logistics to be introduced to CPP; the successful completion of the data gathering phase of the SHEBA project (Surface Heat Budget of the Arctic Ocean); projects on Antarctic biology and medicine involving an ecosystem in the Dry Valleys and the discovery of four new species of fish in the Southern Ocean; and developments in cosmology and astrophysics involving the VIPER deep space telescope.

Mr. Chiang reported on the status of construction for South Pole Safety and South Pole Station modernization. The first season with the Air National Guard supplying logistics support was successful. Together with the U.S. Navy VXE 6 an unprecedented 326 flights to the South Pole were completed. An agreement was reached with NASA for support

of South Pole communications including a future workshop on this topic. Noting that this season was the last for the U.S. Navy VXE 6 squadron after 44 years of support to the program, the Task Force drafted a resolution of appreciation and thanks and recommended it to the full Board for approval through the Committee on Programs and Plans.

f. Task Force on the Environment (TFE)

The NSB Task Force on the Environment met on March 26 and 27 and heard three presentations: Dr. Joseph Bordogna, Deputy Director, NSF, addressed issues of coordination and integration of environmental research and education activities across the Foundation; Dr. David Policansky of the National Research Council discussed the ongoing NAS Grand Challenges in Environmental Science project that the NSF is sponsoring; and Dr. David Campbell, EHR, presented information on EHR support for environment-related activities. The task force also discussed the outline of its report, the categories of recommendations, specific issues relating to the scope and content of the report, and the schedule for production, CPP review and NSB review. The report will be presented at the 5-7 May meeting of the NSB. **g. Science and Engineering Indicators (SEI)**

The S&EI Subcommittee were provided a detailed briefing by Jennifer Bond on the S&E Indicators-2000 schedule and review plan. The special historical context chapter will be available for the Board's review by the May meeting and the other chapters will be reviewed throughout the summer. Each of the chapters will also have external peer review (5-6 reviewers) in addition to Board review. The Subcommittee gave suggestions for reviewers for each of the 9 chapters. A list of suggested external peer reviewers for each of the chapters has been compiled by SRS. This list will be revised to incorporate the numerous subcommittee suggestions and sent out to the subcommittee for review in the next few weeks. It appears likely that the subcommittee will need to meet either by teleconference or in person in late August. Dr. Kelly stated that this meeting could perhaps be combined with a budget meeting that will also need to occur in August. A discussion of the S&EI review protocol took place, with Dr. Mitchell-Kernan requesting that SRS provide a copy of the protocol to the subcommittee for review.

As a follow-up to previous subcommittee discussions, Dr. Jeanne Griffith, Division Director, Science Resources Studies, briefed the Subcommittee on a number of the long range planning activities for improving S&E Indicators. These include: 1) the development of a program for small grants for research on improving approaches to indicator development and presentation, developing new S&T indicators, and improving understanding of the S&T enterprise in the U.S. and globally; 2) a review of indicator-related research projects being funded in FY 1999; and 3) planned workshops and seminars that will lead to improved indicators both domestically and internationally.

h. International S&E Issues (ISE)

The Task Force discussed its charge and accepted it as both desirable and do-able. The Task Force decided that it should look at two aspects of its charge, the "Big Picture" and the specific recommendations to NSF, as intertwined issues. As a rough work plan, the group decided on a two-phase approach: (1) an information collection phase, of approximately two months, to be followed by (2) a phase focusing on policy issues and recommendations for NSF. The initial, fact-finding phase will outline the current policy framework. This would include a literature search of recommendations over, say, the past dozen years, and a survey of what other agencies are doing, e.g., their missions, and how their world has changed, and any prospective changes in their activities or organization that they are contemplating. The Task Force might convene panels of representatives from other agencies, science counselors from foreign countries, and staff members from the international agencies and development banks.

i. Ad Hoc Committee on Strategic S&E Policy Issues (SPI)

Members discussed and approved the draft charge to the committee. They agreed that a methodology for priority setting across fields of science would be a significant contribution to the budget allocation process, even if it were only one component in a process in which political considerations dominate. They agreed with the need for an assessment of the state of the art in priority setting methods, drawing on knowledgeable NSF staff to identify individual experts for a workshop or series of workshops. The committee agreed to come back with a set of principles to guide the process and a draft work plan for the committee's activities.

j. NSB 50th Anniversary Task Force

Ms. Julia Moore, Director, Office of Legislative & Public Affairs, reported to the task force on plans for the NSF 50th anniversary celebration in collaboration with the White House and other partners. The task force discussed the timeline for the proposed 300 page historical monograph and determined that it could not be completed in one year. They decided to undertake the monograph as a long-term project, to be started in calendar year 2000. They also decided to sponsor a shorter commemorative document for the general public to be published by December 2000. The task force will hold a conference call in late April to discuss the statement of work for the commemorative document.

Marta Cehelsky
Executive Officer

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