

Preliminary Report of the July 29, 1999 Meeting

NSB-99-143

August 2, 1999

MEMORANDUM TO NATIONAL SCIENCE BOARD MEMBERS

SUBJECT: Preliminary Report of the July 29, 1999 Meeting

The major actions of the Board at its 354th meeting on July 29, 1999, are summarized for the information of those members and consultants absent and as a reminder to those present.

1. Board Activities

- a. The Board approved the interim report prepared by the CPP Task Force on the Environment, Environmental Science and Engineering in the 21st Century: The Role of the National Science Foundation (NSB-99-133).
- b. The Board approved a proposed revision of criteria governing items submitted to the NSB for review and approval (NSB-99-112).
- c. Dr. Chang Lin Tien was sworn in to a term ending in 2004.
- d. The Board approved the Closed and Open Session minutes of the May 5-7, 1999 meeting.
- e. The Board approved the calendar of meetings for 2000 (NSB-99-125, attached) and agree to explore other options for the future regarding meeting days.
- f. The Board approved the level of donations to the NSB Trust Fund Subaccount for FY 2000.
- g. The Board approved an off-site policy meeting and retreat for February 2-4, 2000, in California, to focus on communication and outreach.
- h. The Board approved a statement commemorating Congressman George Brown (NSB-99-144, attached).
- i. The Board presented a commendation for forty four years of Antarctic logistic support to the Assistant Secretary for Installations and Environment, Robert Pirie, representing the Secretary of the Navy, Richard Danzig.

2. Awards

The Board approved the following awards:	Amount not to exceed
Office of the Director	
Office of Integrative Activities	\$19,911,890 for 60 months
S&T Center on Nanobiotechnology	
Cornell University	
(NSB-99-117)	
S&T Center for Adaptive Optics (CfAO)	\$19,765,000 for 60 months subject to the submission of a
University of California at Santa Cruz	revised plan by the awardee that reflects greater
(NSB-99-115)	participation of vision science in the management and
	overall funding distribution of this award
S&T Center for Behavioral Neuroscience	\$19,902,611 for 60 months

Emory University

(NSB-99-116)

S&T Center on the Sustainability of Water Resources \$15,993,844 for 60 months
in Semi-Arid Regions

University of Arizona

(NSB-99-118)

S&T Center for Environmentally Responsible \$17,979,170 for 60 months
Solvents and Processes

University of North Carolina, Chapel Hill

(NSB-99-114)

Geosciences

Division of Ocean Sciences

Oceanographic Research Ship and \$180,600,000 for 60 months
Submersible Operations Awards

University-National Oceanographic Laboratory

System (UNOLS) member institutions

(NSB-99-120)

3. NSB Committees

(Committee summaries are provided by executive secretaries.)

a. Executive Committee

The Executive Committee focused on the NSF strategic plan and on the NSF FY 2000 and FY 2001 budgets. The Executive Committee will meet by videoconference on August 10 to approve the NSF FY 2001 budget and the FY 2001 budget of the Office of the Inspector General. Topic: Desired input International Task Force

b. Audit & Oversight (A&O)

Regular

The Deputy Director provided a briefing on the "Proposed revision of criteria governing items submitted to the NSB for review and approval" (NSB 99-112). Discussion focused on ensuring that the Board has opportunities to review EHR programs under the proposed criteria. The Chief Financial Officer, Joe Kull, gave an update on the FY 1999 NSF Financial Statement and Audit, which is expected to receive a clean opinion. The committee also received updates on NSF GPRA activities and the proposed Office of Management and Budget (OMB) Federal Research Misconduct Policy.

Supervisory

Mr. Sunshine discussed the FY 2001 Budget request for the Office of Inspector General. The Committee approved a resolution recommending that the Executive Committee accept the IG's budget proposal.

c. Programs and Plans (CPP)

The Committee received a brief report on the meeting of the Polar Issues Task Force, with updates on activities in the Arctic and Antarctic, including a medical emergency at the South Pole. The Committee discussed the interim report of the Task Force on the Environment, accepted the report, and recommended it to the National Science Board for approval.

The Committee received presentations on the process and the proposed awards for Science and Technology Centers.

Four award actions were reviewed and approved for consideration by the National Science Board: S&T Center on Nanobiotechnology (Cornell University, lead institution); S&T Center for Behavioral Neuroscience; (Emory University, lead institution); S&T Center on the Sustainability of Water Resources in Semi-Arid Regions (University of Arizona, lead institution); S&T Center for Environmentally Responsible Solvents and Processes (University of North Carolina-Chapel Hill, lead institution). A fifth award action, S&T Center for Adaptive Optics (University of California at Santa Cruz, lead institution), was reviewed and approved for consideration by the Board, with the award subject to the submission of a revised plan with greater participation of vision science.

The Committee discussed the findings, recommendations and initial responses to the Academic Research Fleet Review, a report which was undertaken at the Committee's request. The Committee reviewed and approved, for consideration by the Board, an award for Oceanographic Research Ship & Submersible Operations (University-National Oceanographic Laboratory System (UNOLS) member institutions).

The Committee heard presentations on Major Research Equipment (MRE) related to planning for the FY 2001 budget request. The Committee continued its discussion of definitions for major research equipment and infrastructure, with follow-on discussions to take place.

d. CPP Task Force on the Environment (TFE)

The task force reviewed the most recent draft of its report, Environmental Science and Engineering in the 21st Century: The Role of the National Science Foundation, and agreed to final changes. The task force approved the interim report and recommended it for submission to the Committee on Programs and Plans, and for approval by the National Science Board.

e. CPP Task Force on Polar Issues

The Director of OPP informed the Task Force of several items including: the progress of competition of logistics and drilling contracts; appointment of a new logistics manager for the Arctic; search for a new science support manager for the Antarctic; signing of an MOU with the Coast Guard regarding operation of ice breakers; and finally, efforts to address a medical problem of a member of the winter-over contingent at South Pole Station.

Staff highlighted a recent "job walk" through facilities in Greenland for potential contractors for Arctic logistics; potential science and logistics activities on the five year horizon in the Arctic and Antarctic; results of a workshop on research interest in Lake Vostock; results of solicitations for research on contaminants in the Arctic environment; and recent activities of the International Arctic Science Committee and the Arctic Council.

f. Education and Human Resources (EHR)

Bob Abel (BFA) briefed the committee on NSF Research and Education Funding and Review Profiles. Dr. Tapia then reported on the Science and Engineering Indicators Subcommittee meeting. Five draft chapters, including reviewers' comments on them, were discussed. Dr. Williams reported the outcome of the 1999 Urban Systemic Program competition. Five city school districts have been recommended for funding. The committee was also briefed on the Science of Learning research portfolio, which includes research ranging from the brain to learning in various educational settings.

They recommended that the EHR Committee Work Plan, with the 1998 Field Hearings Report appended, be forwarded to the full Board for approval and publication. Dr. Williams and Dr. Chubin were asked to revise the draft concept paper on an education symposium to reflect more thematic focus and to circulate the revision to the committee by the end of August. The date for the symposium was pushed back to early 2000.

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

The meeting was chaired by John White on behalf of Claudia Mitchell-Kernan. The subcommittee reviewed three new draft S&E Indicators-2000 chapters.. Chapter authors gave overviews of the major findings of each chapter and peer

review comments received. The subcommittee reviewed Chapter 4-Higher Education in Science and Engineering, Chapter 5-Elementary and Secondary Education and Chapter 6-Academic R&D.

Lead reviewers from the subcommittee and external reviewers had a number of important comments and concerns that will require revisions of the Chapter on Elementary and Secondary Education. It will be revised to add more context, for example on various reform efforts. There was a brief discussion of the scope of Chapter 9-the Significance of Information Technologies and an update on the status on Chapter 1-Science and Technology in Times of Transition: the 1940s and 1990s. Selected advances and breakthroughs supported by NSF will be incorporated into Chapter 1, primarily using information that OLPA has been collecting over the past 3 years.

The subcommittee agreed on the need to schedule a meeting in the next two months, possibly by teleconference, to review the remaining draft chapters

h. Task Force on International S&E Issues (ISE)

The Task Force heard a broad survey of the international activities of NSF, as background for its hearings to take place on July 30 covering perspectives from a wide range of Federal government organizations. After an overview presented by Dr. Perrolle, each of the ADs present and Dr. Erb highlighted key international programs and initiatives within their directorates/offices.

The Task Force agreed to cosponsor with the Committee on Strategic Policy Issues a symposium on priority setting and budget coordination, scheduled for Nov 19. The TF agreed to map out report recommendations by conference call in early December and to present a draft report at the May 2000 NSB meeting. The TF deferred scheduling a second session on NSF until more information is gathered from non-NSF sources.

The next TF hearing will be September 17. This hearing will hear from speakers who are actively engaged in international collaborations. Speakers will be drawn from industry, universities, and foundations; task force members should forward suggestions for speakers to the TF Executive Secretary.

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

The meeting began with two presentations and discussion on methods of priority setting, first by Dr. Irwin Feller on priority setting in the academic sector and second by Dr. Mary Ellen Moguee on international science and technology foresight activities.

Members discussed the workplan for phase I, and agreed to a general process including:

- A literature review to examine existing structures and processes for coordination and priority setting for Federally funded research across the Federal government, and the role played by individual agencies in this process;
- A state of the art assessment of methodologies that inform priority setting for research, through a literature review and a workshop examining case studies in academe, foundations, and industry;
- A study of budget coordination and priority setting for research as it is practiced in other countries to understand advantages and disadvantages of these methods for the U.S., in the form of an international symposium on November 19 following the November Board meeting.

j. Task Force on NSB 50th Anniversary (NSB50)

Dr. Vera Rubin, Chair, NSB 50th Anniversary Task Force, reported that the Task Force met with Deborah Shapley,

journalist, who will write the Commemorative for the Board's 50th anniversary, and Terry Savage, Low+Associates, the contractor who will design and print the Commemorative. A letter asking former and current Board members to provide photos, letters, and reminiscences of their time on the Board will be sent within the next few weeks. These materials will be used for the Commemorative, the upcoming historical monograph and the celebratory event in December 2000.

Ms. Susan Chase, Office of Legislative & Public Affairs (OLPA), provided an update on JumpStart 2000, the PARADE/react competition for K-12 students. Ms. Chase stated that the White House Millennium Council had agreed to include this Challenge as a "millennium" event, and that the NSF received a letter from the First Lady extending congratulations on the Challenge. On September 19 David Levy's article in PARADE will focus on the Challenge, and on September 20 it will be announced in react and include a teacher's guide.

Mr. Patrick Olmert, OLPA, reported on NSF 50th activities to date and those planned for next year. Mr. William Line, coordinator for the NSF 50th Anniversary Advisory Committee, OLPA, reported that the Committee had discussed several venues for celebration, including 'Scientists in schools' in the Washington, DC area; an NSF symposium to commemorate 50 years; and a White House Millennium evening at the White House to discuss the role and contribution of NSF and the return on taxpayer dollars.

The Task Force reviewed draft guidelines for an NSF-wide "name an asteroid" contest to celebrate NSF/NSB 50, which will be forwarded to the NSF Director, the Director's Policy Group, and the General Counsel for review and comment before being publicized.

k. Communications and Outreach (C&O)

The NSB Committee on Communication and Outreach (C&O), chaired by Dr. M. R. C. Greenwood, held its first on-site meeting. The committee held an organizational teleconference in May.

The committee approved and adopted the charge, and agreed to focus in particular on the need "to communicate the significance, challenges and opportunities of S&E to policymakers and government leaders whose decisions regarding national investments will affect the ability of S&E to benefit society."

The committee met with both internal and external speakers, to inform its future work. Three brief internal presentations included: NSF General Counsel Larry Rudolph on the legal limits on legislative advocacy by NSB members; NSF Office of Legislative and Public Affairs (OLPA) Director Julia Moore on the basic elements of a communications plan; and OLPA Deputy Director Joel Widder on the Congressional budget process as it relates to NSF. Two external guests, who discussed the effectiveness of science and engineering communication from their "real-life" perspectives, included: Dick Malow, former Staff Director of the House Appropriations Subcommittee; and Curt Suplee, Washington Post science editor and writer, on the business of science news.

Planned next steps include a second teleconference in September, preliminary recommendations by February, and a final report to the NSB in May 2000.

Marta Cehelsky
Executive Officer
Attachments: NSB-99-125
NSB-99-144

NSB-99-125

July 16, 1999

MEMORANDUM TO MEMBERS OF THE NATIONAL SCIENCE BOARD

SUBJECT: NSB Meeting Dates for Calendar Year 2000

After discussion at the May NSB meeting, the issue of meeting dates for 2000 was tabled to allow the NSB Office to poll members once more to identify optimum meeting dates. The meeting dates below were chosen to assure attendance by the highest number of members possible. We have also taken into account possible conflicts with holidays and with major professional meetings for which meeting dates were final at the time of the polling.

Based on all these factors, the following meeting dates are recommended for 2000.

2000 Calendar of National Science Board Meetings

February 2, 3, 4 (Wednesday/Thursday/Friday) [Policy Meeting and Board Retreat]

March 15, 16 (Wednesday/Thursday)

May 3, 4, 5 (Wednesday/Thursday/Friday) [Annual Meeting]

August 2, 3 (Wednesday/Thursday)

October 18, 19 (Wednesday/Thursday)

December 12, 13, 14 (Tuesday/Wednesday/Thursday) [50th Anniversary]

Executive Committee

August 15 (Tuesday)

The following resolution is proposed for your consideration.

The National Science Board approves the schedule of Board meeting dates for Calendar Year 2000 as contained in NSB-99-125.

Marta Cehelsky
Executive Officer

NSB 99-144

July 29, 1999

RESOLUTION OF THE NATIONAL SCIENCE BOARD APPROVED AT ITS JULY 29, 1999 MEETING

IN COMMEMORATION OF CONGRESSMAN GEORGE E. BROWN, JR.

For over three decades of distinguished service to the U.S. Congress and the global science community, the National Science Board recognizes Congressman George E. Brown, Jr., as more than a friend of science. He was a fine intellect and a conscientious leader in extraordinary circumstances.

Mr. Brown was a fount of wisdom about how science and technology transform our lives and our understanding of it. As an advocate for space exploration and environmental protection, he challenged scientists and policymakers alike to consider the unanticipated consequences that future generations would face. As a champion of basic research and science education, Mr. Brown reminded us that all citizens of all ages expect, and deserve, a return on government investments.

Vigilance defined Mr. Brown's career in public service. Concern about the character of human culture and the quality of life dominated his work on the Committee on Science. In a lecture last year, he said "Given that we can completely transform the world with our knowledge, we are morally compelled to answer the question, 'What is the end that we seek?'"

Be it RESOLVED that:

The National Science Board and students of government have lost a role model and a colleague. The legacy of Congressman George Brown will light the way to a science and technology policy for the next millennium.

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