

**MEMORANDUM TO MEMBERS OF THE NATIONAL SCIENCE BOARD**

**SUBJECT:** Preliminary Report of the August 8, 9, 2001 Meeting

The major actions of the Board at its 364th meeting on August 8, 9, 2001, are summarized for the information of those members absent and as a reminder to those present.

**1. Board Actions**

- a. The Board approved the NSF FY 2003 Budget Request to the Office of Management and Budget (NSB-01-145, Attachment 1).
- b. The Board approved the FY 2003 Budget Request for the NSF Office of Inspector General (NSB-01-146, Attachment 2).
- c. The Board approved the "Orange Book," the interim draft of the *S&E Indicators 2002* report. Members asked to send any final comments to Dr. Tapia as soon as possible. A final draft will be presented at the October meeting for approval.
- d. The Board approved the interim draft report *Federal Research Resources: A Process for Setting Priorities* (NSB-01-39). The final draft will be presented at the October meeting for approval.
- e. The Board voted to delay the 2002 off-site policy meeting and hold the annual retreat in conjunction with a March meeting. The Board Office will contact members to confirm the dates in March to ensure the maximum attendance.
- f. The Board approved the Closed and Open Session minutes of the May 2001 meeting.

**g. Awards**

The Board approved the following awards:

Amount not  
to exceed

**Computer and Information Science and Engineering**

Division of Advanced Computational Infrastructure  
and Research

Distributed Terascale Facility  
University of Illinois, Urbana-Champaign  
and the University of California - Davis  
(NSB-01-129)

\$53,000,000  
36 months

## **Mathematical and Physical Sciences**

### Division of Physics

Support for the National Superconducting

Cyclotron Laboratory (NSCL)

Michigan State University

NSB-01-119

\$75,060,000

60 months

### Division of Physics

Support for the Laser Interferometer Gravity

Wave Observatory (LIGO)

California Institute of Technology

NSB-01-125

\$160,000,000

60 months

### Division of Astronomical Sciences

Extension of Cooperative Agreement for

Management of the National Radio Astronomy

Observatory (NRAO)

Associated Universities, Inc. (AUI)

NSB-01-127

Amended total

\$495,270,000

(an increment of  
\$178,870,000)

through

September 30, 2004

(an increment of  
33 months)

### Division of Astronomical Sciences

Authorization of ALMA (MMA)

Year 5 Design and Development Funding

Associated Universities, Inc. (AUI)

NSB-01-128

Amended total

\$41,000,000

(an increment of  
\$9,000,000)

Amended to  
60 months

(an increment  
of 12 months)

## **Social, Behavioral and Economic Sciences**

### Social and Economic Science Division

Cyclical, Intergenerational and Life Course Measures

of Economic and Social Behavior: Panel Study of

Income Dynamics (PSID), 2002-2006,

University of Michigan

NSB-01-124

\$12,000,000

60 months

## **2. NSB Committees**

The Chairman discharged with thanks the Committee on the 2001 NSB Retreat, with thanks to the Chair, Dr. Jones, members Drs. Armstrong, Jaskolski, Miller, Richardson and Suzuki, and Executive Secretary Dr. Cehelsky; and the Nominating Committee, with Chair, Dr. Jones, and members Drs. Armstrong, Jaskolski and Suzuki.

**(Committee summaries are provided by executive secretaries.)**

**a. Executive Committee**

The Executive Committee heard an update from the Director on congressional activities affecting NSF. It reviewed and concurred with the proposed member contributions for FY2002 to the NSB subaccount of the NSF Trust Fund. Finally, the committee considered the review process for two NSB member proposals and concurred with the Director's presentation of the conclusions to the Board.

**b. Audit & Oversight (A&O)**

**Regular**

The committee heard several reports. The first was a case study on how congressional and OMB interest in government-wide controls to prevent improper/erroneous payments affects NSF. The issues seem more relevant for larger agencies. The second was on how risk assessment is being developed as a systemic management tool in the area of grants management. The committee also heard a report on information technology and workforce planning at NSF, and how they are part of the agency's Administrative and Management Plan.

**Supervisory**

The Committee was informed that the IG has been asked to testify on September 6, 2001, along with NSF, before the House Science Committee, Research Subcommittee, regarding plans to manage large facility projects. Also, the Committee approved the OIG's FY 2003 budget proposal and heard presentations on several ongoing audits and reviews.

**c. Programs and Plans (CPP)**

The Committee on Programs and Plans heard an updated and revised report from the Deputy Director on NSF's Large Facility Projects Management and Oversight Plan. The Committee was pleased with the framework and the elements set forth in that presentation, and the Committee encouraged NSF Management to proceed with its development and implementation.

CPP heard reports on management and oversight of the Laser Interferometer Gravity Wave Observatory (LIGO). Dr. Gary H. Sanders, Project Manager and Deputy Director of LIGO (California Institute of technology) provided information on how LIGO construction was organized and executed, and the transition to science operations. Dr. Victor Cook, NSF Program Manager for LIGO, described the NSF LIGO coordinating group, management and oversight procedures, and some management/oversight issues.

CPP considered the following proposed awards, and recommended award approval to the full Board:

- Support for the Laser Interferometer Gravity Wave Observatory (California Institute of Technology);

- Support for the National Superconducting Cyclotron Laboratory (Michigan State University);
- Extension of a Cooperative Agreement for Management of the National Radio Astronomy Observatory (Associated Universities, Incorporated), with a revised resolution to include both the incremental and total funding authorized;
- Authorization of ALMA (MMA) Year 5 Design and Development Funding (Associated Universities, Incorporated), with a revised resolution to include both the incremental and total funding authorized;
- Distributed Terascale Facility (University of Illinois at Urbana-Champaign and University of California – San Diego), with a request that staff provide a report in six months following up on management plans and budget allocations.
- Cyclical, Intergenerational and Life Course Measures of Economic and Social Behavior: The Panel Study of Income Dynamics (University of Michigan)

The Committee received a brief update on the MRE planning process for FY 2003.

The Infrastructure Task Force reported on its meeting to the Committee, and CPP agreed with the Task Force plan to speak to the infrastructure needs of the disciplines that NSF supports. The Polar Issues Subcommittee also reported on its meeting, which had presentations on a range of science and logistics activities in the Arctic and Antarctica.

#### **d. CPP Subcommittee on Polar Issues (PI)**

NSF staff updated the subcommittee on several items regarding Polar Programs including progress on South Pole Station Construction schedule; a recent meeting of the Antarctic Treaty Organization; and the status of the FY-02 Polar Programs budget deliberations in Congress. The subcommittee was briefed on the ongoing development of a Presidential initiative on research on climate change; activities of the Study of Environmental Arctic Change, a working group of the Interagency Arctic Research Policy Committee; activities within NSF to expand collaboration on the study of subglacial lakes in the Antarctic and the status of current research; development of health and safety component of logistics operations in the Arctic for NSF funded scientists ;and possible future MRE projects.

#### **e. CPP Task Force on S&E Infrastructure (INF)**

Dr. White presented summaries of infrastructure papers prepared by each directorate. Some common themes mentioned by directorates were the growth in databases, IT and Cyber-Infrastructure needs, the gap between what MRE and MRI support, and needs for community involvement in defining needs. Directorates have different needs, suggesting that there is no “one size fits all” approach. MRE does not fit some directorates’ needs well for various reasons: project size, upgrades of aging instruments, databases, and constant refreshment needed for IT projects.

General observations on infrastructure were discussed. MRE and MRI do not meet all needs; there is a “mid-size infrastructure” gap. The directorates and divisions vary greatly in community involvement in defining infrastructure needs, with astronomy being the most organized field. The

role of the report being developed by the INF task force in explaining and planning infrastructure was noted; it was noted that the report could help stem the politicization of infrastructure projects.

In executive session, Dr. White proposed that the audience for the report be targeted as Congress, OMB and OSTP. He suggested that the report begin with remarks about S&E infrastructure needs across the range of science and engineering and the range of federal agency missions, but then quickly focus on the needs of the NSF constituencies. The Task Force members agreed with this approach and Dr. White offered to send out an outline following that approach shortly.

#### **f. Education and Human Resources (EHR)**

Dr. Suzuki introduced Dr. Judith Ramaley, the new Assistant Director for Education and Human Resources who made some brief remarks. The committee reviewed a draft of the report entitled *The Road to Excellence: The National Science Foundation's Leadership in K-16 Science, Mathematics, Engineering, and Technology Education.* The Committee members were pleased with the changes that had been made from the last version. The next draft will be discussed via a teleconference in September. The committee hopes to finalize the report by the October Board meeting.

A series of briefings and presentations by NSF staff members followed. Dr. Susan Duby provided background information on the establishment of professional master's degree programs at research universities that is being funded by the Sloan Foundation, noting that NSF has been approached about possibly becoming a partner in this effort. The committee will expect to hear more about the program and NSF's possible role in it in the coming months. Dr. Costello Brown presented some of the findings from the recently released study of the Urban Systemic Initiatives entitled "*Academic Excellence for All Urban Students*". The committee members were very impressed with the report. Dr. Ramaley then gave an update on the Math and Science Partnerships Initiative. Last was Dr. Eric Hamilton who described some of the themes that have emerged from the results from EHR's research and evaluation activities.

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

Dr. Robert Richardson chaired the meeting on behalf of Dr. Richard Tapia. Dr. Marta Cehelsky led a discussion of two cover options for *Science and Engineering Indicators-2002*. The subcommittee selected a cover representing the path of a neutrino recorded at the South Pole in March 2000. Dr. Cehelsky also led a discussion on three proposed *Indicators-2002* companion piece topics--Internet/Information Technology; Education; and Partnerships. Dr. Suzuki recommended adding the topic of Globalization of Science and Technology. A decision was deferred to the next meeting of the subcommittee.

Mr. Lehming briefly reviewed the Overview chapter's approach, which pulls together some broad themes emerging from the *Indicators* draft and sets the U.S. S&E enterprise in its international context. Subcommittee members expressed their approval of the approach, tone, and content of the chapter.

The Subcommittee discussed the "Orange Book," and recommended preliminary approval of the document to the full Board. Additional Board comments are encouraged and should be submitted to SRS by September 7. Final changes will be discussed with the Subcommittee in a

late September teleconference. In response to concerns over the continued large size of the document, SRS will provide options for alternative publication modes and timing of *Indicators* to the Subcommittee at its March 2002 meeting. Mr. Lehming updated the Subcommittee on the status of the feasibility work for a possible Environment chapter for inclusion in *Indicators-2004*. A conceptual framework and draft chapter outline will be provided to the Subcommittee for their consideration at the November meeting.

#### **h. EHR Task Force on National Workforce Policies for S&E (NWP)**

The task force meeting was chaired by Dr. Langford in the absence of Dr. Miller, who, along with Dr. Savitz, participated by telephone. The meeting began with a description of a seminar on international mobility of highly skilled workers, sponsored by the Organisation for Economic Co-operation and Development (OECD). Staff members from the Division of Science Resources Statistics presented international activities of relevance to the Task Force.

Dr. Miller asked members to use the remaining meeting time to examine the draft "Skeletal Framework" for the report and to decide whether the direction taken in the draft reflects the thinking of the group. The broad-ranging discussion reinforced the ideas in the draft, but pointed toward a different organization and role for the report. Task force members agreed that the report should begin by framing the problems facing the U.S. nationally within the global picture and build toward specific recommendations, to be clarified in future task force discussions. A new draft will be prepared for discussion prior to the October meeting, with the goal of presentation to the EHR Committee at the November meeting.

#### **i. Committee on Strategy and Budget (CSB)**

Dr. Anita Jones, Chair of the CSB Committee, reported that the committee had conducted three teleconferences over the past two months to begin its mission of providing guidance to the Board for the development of NSF's strategic budget direction. The committee was briefed by the Director on the Fiscal Year 2003 NSF budget submission to the Office of Management and Budget. NSF staff briefed the committee on the status of surveys of NSF principal investigators and institutions assessing the adequacy of funding and duration of support provided through NSF awards. The committee also discussed the criteria used by NSF in the prioritization of new investments in major research facilities.

#### **j. Task Force on International S&E Issues (ISE)**

Pamela Ferguson chaired the meeting in the absence of Diana Natalicio, who was tied up with a Texas Board of Regents meeting on next year's budget and capital allocations.

The main focus of the meeting was the draft of the consolidated final report. The task force reviewed the document chapter-by-chapter. The task force agreed that the report is in very good shape and needs only a few minor changes. The Executive Summary still needs to be written. The task force expects to have a draft of the Executive Summary ready in a few weeks and intends to schedule a conference call to discuss it at that time.

Once the Executive Summary is approved, it was agreed that the draft report should be distributed as soon as possible to the full Board for comment before the October NSB meeting. The goal is to have a revised version of the document incorporating Board member comments

available for full Board discussion and approval as an interim report at the October meeting. The task force then intends to distribute the report for public comment, make any necessary revisions, and submit the final report for approval at the November meeting.

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

The Committee met and discussed next steps following approval by the Board of its Interim Report, *Federal Research Resources: A Process for Setting Priorities*. These include completion of a final report to be considered by the Board for approval at the NSB October meeting, and distribution of the final report.

---

Marta Cehelsky  
Executive Officer

Attachment 1: NSB-01-145 NSF FY 2003 Budget Resolution  
Attachment 2: NSB-01-146 FY 2003 Budget Resolution for NSF OIG

August 9, 2001

RESOLUTION

NATIONAL SCIENCE BOARD

NATIONAL SCIENCE FOUNDATION  
FISCAL YEAR 2003 BUDGET SUBMISSION

RESOLVED, that the National Science Board approves the proposed National Science Foundation Fiscal Year 2003 budget request for transmittal to the Office of Management and Budget as recommended by the Director and the Committee on Strategy and Budget. Further, the Board authorizes the Director to submit such a request in accord with the proposed Budget by Account and Budget by Strategic Goals tables.

Anita K. Jones  
Chair, Committee on Strategy and Budget



August 9, 2001

RESOLUTION

NATIONAL SCIENCE BOARD

OFFICE OF THE INSPECTOR GENERAL  
NATIONAL SCIENCE FOUNDATION  
FISCAL YEAR 2003 BUDGET SUBMISSION

RESOLVED, that the National Science Board approves the proposed budget request for the National Science Foundation Office of the Inspector General for Fiscal Year 2003 for transmittal to the Office of Management and Budget, as recommended by the Audit and Oversight Committee, consistent with the proposal of the Office of the Inspector General (NSB/A&O-01-16).

Stanley V. Jaskolski  
Chair, Committee on Audit and Oversight