

March 16, 2001

**MEMORANDUM TO NATIONAL SCIENCE BOARD MEMBERS**

**SUBJECT:** Preliminary Report of the March 15, 2001 Meeting

The major actions of the Board at its 362nd meeting on March 15, 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 Open and Closed Session minutes of the December 2000 meeting.
- b. The Board approved selections for the Vannevar Bush Award and the Alan T. Waterman Award for 2001, as recommended by the selection committees. Names will be announced when the NSF Director and NSB Chair have contacted the individuals.
- c. The Board approved a draft report, *The Scientific Allocation of Scientific Resources*, NSB-01-39, as a working draft, and preparations for a stakeholder symposium May 21-22 to discuss the draft.
- d. The Board established a new standing Committee on Strategy and Budget. Membership and other organizational issues will be discussed at the May meeting.
- e. The Board concurred with the establishment of a new nomination and election protocol, including the establishment of a Nominations Committee for elected NSB positions.
- f. The Board approved the Director's Annual Merit Review Report, NSB-01-36.
- g. The Board and the Director recognized Colonel Richard Saburro of the New York Air National Guard for presiding over the successful transition of air support for the U.S. Antarctic Program from the U.S. Navy to the Air Force.

**2. Awards**

The Board approved the following award:

Amount not  
to exceed

**Directorate for Mathematical and Physical Sciences**

Division of Astronomical Sciences

Operation of the International Gemini Observatory  
Association of Universities for  
Research in Astronomy, Inc. (AURA, Inc.)  
(NSB-01-22)

\$127,699,365  
for 60 months

### **3. Committee Reports**

(Committee summaries are provided by executive secretaries.)

#### **a. Executive Committee (EC)**

The Executive Committee heard a report from the Director on the status of budget and congressional activities. It also received reports on the recommendations of the Vannevar Bush and Alan T. Waterman Award committees.

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

##### **Regular**

The committee heard reports on GPRA, Customer Service Surveys, the FY2000 report on the Merit Review System and a study undertaken by the National Academy of Public Administration (NAPA) on NSF's merit review criteria. A status report on the NSF financial statements and audit was provided: for FY2000, NSF received its third consecutive "clean" audit opinion. The committee also heard a report on the work of the NSF Management Controls Committee and steps being taken to address the FY 2000 Management Challenges.

##### **Supervisory**

The committee discussed and concurred with the Office of Inspector General's (OIG) budget request for FY 2002. A schedule was established for reviewing and approving the next semiannual report by the Inspector General. Mr. Tom Cooley, Chief, Office of Budget, Finance and Award Management, made a presentation on corrective actions planned for problems identified in a recent audit and OIG staff briefed the committee on several active investigation and audit projects.

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

A good portion of the meeting was devoted to discussion of the report on NSF's Niche in K-16 SMET Education. Dr. Suzuki presented a detailed outline, and several suggestions were made regarding additional topics and the organization of the report. The committee hopes that the first draft of the report will be ready for its review at the May meeting.

Dr. Suzuki and several members of the NSF staff had attended a conference entitled "Applying the Science of Learning to the University and Beyond" in early March. They shared their impressions and reactions with the rest of the committee and led a discussion on the developments and applications of the science of learning.

The committee then reviewed a draft statement on Education and Human Resource Development in the 21<sup>st</sup> Century that identifies issues and needs in this area and offers some policy recommendations. No major revisions were suggested. The EHR Committee also heard reports from the Indicators Subcommittee (SEI) and the Task Force on National Workforce Policies for Science and Engineering (NWP).

#### **d. Science and Engineering Indicators (SEI)**

Mr. Rolf Lehming, Science Resources Studies Division, discussed a draft review schedule for *Indicators-2002* including suggested assignments of Board members as reviewers for each chapter. This list was distributed to all Board members. Dr. Tapia stressed the need for, and importance of, Board members' input into the *Indicators* review process. Dr. Tapia asked the Board members to let him know if they want to change chapter assignments.

Mr. Bill Noxon, Senior Public Affairs Specialist from the Office of Legislative and Public Affairs, presented several options to achieve wider dissemination of *Indicators-2002*. The subcommittee indicated that they did not feel comfortable making decisions on the rollout for *Indicators* and suggested that the Board, in consultation with OLPA, consider retaining a Public Relations firm to assist in this process. The subcommittee members also agreed that as they read the draft chapters of *Indicators-2002*, they would forward "nuggets" to OLPA for possible highlighting in the rollout process. Finally, in response to a question on whether the timing of the release of *Indicators* should be rethought, Dr. Lynda Carlson stated that SRS would develop timing options for release of future *Indicators* and discuss them with the subcommittee after the release of *Indicators-2002*. Mr. Lehming distributed a draft workplan for the production of an Environment chapter for *S&E Indicators-2004*.

Mr. Lehming proposed a procedure for the treatment of issues discussed in SEI on which the NSB has taken a position. The Board description of the issues would be presented in text boxes that would also provide the reader with the URL for obtaining further information. SRS would not attempt to summarize NSB conclusions or recommendations. The subcommittee agreed with this approach.

Finally, members of the subcommittee expressed their deep appreciation to the staff of SRS for the excellent and important reports that they have provided to the Board and NSF over the years.

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

The task force focused its discussion on mathematics and science teachers. Two NSF staff, Dr. Jane Kahle (EHR) and Dr. Tom Smith (SRS) presented overviews, respectively, on issues and datasets that encompass teachers. The main messages were (1) the need for an overhaul of teacher preparation and professional development to bring some uniformity to a fragmented system of teacher production, induction, certification, and career rewards; and (2) the type and range of national data on teachers, which tends to be self-reported and cross-sectional.

The Chairman thanked the outgoing Executive Secretary and introduced his successor, Dr. Karolyn Eisenstein. The task force then reviewed the state of contracts to support its work. One on foreign talent flows is about to be awarded, which calls for a report by May 1; the other on non-degree education, including but not limited to certificate programs, needs to be scoped since no single, reliable data source has been identified.

The task force agreed that the workforce project being conducted by the California Council on Science and Technology will provide important input on issues and analyses that relate directly to the NWP workplan. In executive session, the task force discussed policy challenges to address in the report, the timetable for activities for the rest of calendar year 2000, and agreed to meet via teleconference to plan for the May meeting after an outline is circulated.

#### **f. Programs and Plans (CPP)**

CPP considered the proposed award for Operation of the International Gemini Observatory (Association of Universities for Research in Astronomy, Inc.) and recommended its approval to the full Board. Staff were requested to provide follow-up information at future meetings.

The committee continued its discussion of planning for cyber infrastructure and research. A strategic plan is being developed to include a broad vision for all users, as well as more specific rationales for subsets of users, including needs of high-end users.

The committee heard reports from the Polar Issues Subcommittee and the Task Force on S&E Infrastructure.

The committee also received an update on Major Research Equipment (MRE) and on facilities management from the Deputy Director. A report was provided on the status of the FY 2001 appropriation and the FY 2002 budget request for MRE. Management of large projects was discussed, including unique features of NSF facilities management compared to other agencies (NSF, by statute, does not operate facilities.) CPP was briefed on plans for new management procedures.

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

The task force discussed the scope of their report. Suggestions included stressing the infrastructure needs of the NSF academic research community; broader academic infrastructure needs; discussion of coordination with other agencies; how infrastructure needs have changed - for example with IT enabled research and the development of virtual research communities; and how to inform Congress and the Executive branch about new infrastructure needs. The task force also discussed forming subgroups to do its work.

The task force heard a presentation from Leslie Christovich of SRS on the biennial survey of Scientific and Engineering Research Facilities. She also discussed a survey of Academic Research Instruments and Instrumentation Needs that was discontinued after 1992. The task force also heard presentations from two Assistant Directors, Mary Clutter and Robert Eisenstein, who discussed infrastructure needs in the Biological Sciences and Math and Physical Sciences communities, respectively.

#### **h. Polar Issues (PI)**

The subcommittee heard a presentation by Dr. John Carlstrom from the University of Chicago and Director of the Center for Astrophysics Research in Antarctica (CARA). OPP staff briefed the subcommittee on several items including: the South Pole Modernization program status and schedule; recent medical program enhancements by the Antarctic support contractor; activities of the Interagency Arctic Research Policy Committee to study environmental change in the Arctic region; development of a proposal workshop for potential investigators to Antarctic research, and planning for development of an Alaskan regional research vessel.

**i. International Issues in S&E (ISE)**

Dr. Diana Natalicio reminded participants that the task force started out with the objective of producing a comprehensive report on international S&E issues, similar to the Board's Environmental S&E Report. The task force discussed whether to proceed with developing a more comprehensive integrated report; who the audience for such a report should be; and the structure and content of such a report. After a lively discussion, task force members agreed that the task force should prepare a report for a more general audience that would be primarily educational in nature. A draft outline for the report will be prepared and a conference call scheduled in the next several weeks.

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

The committee discussed two documents: A draft NSB Statement on the National importance of funding for S&E and the draft paper *The Scientific Allocation of Scientific Resources* (NSB-01-39). It also discussed a draft agenda and possible guest list for a symposium in connection with the May Board meeting to discuss with stakeholders the recommendations in the draft paper.

**k. NSB 50<sup>th</sup> Anniversary Task Force**

The task force discussed the distribution list for the NSB 50th anniversary commemorative, *The National Science Board: A History in Highlights, 1950-2000* (NSB-00-215). In addition to each Board member receiving 24 copies for personal distribution, the commemorative will be sent to Congress, White House senior staff, heads of universities receiving NSF funding; leadership of professional organizations and associations and print media. The Board Office will also coordinate inclusion of the report with the NSF Nifty 50 and *America's Investment in the Future: NSF Celebrating 50 Years* (NSF-00-50) that are currently in distribution.

The task force discussed the publication of a scholarly historical monograph, the second of two planned historical documents about the Board, and decided to refer the decision to the full Board.

Marta Cehelsky  
Executive Officer