

MEMORANDUM TO NATIONAL SCIENCE BOARD MEMBERS

SUBJECT: Preliminary Report of the December 14, 2000 Meeting

The major actions of the Board at its 361st meeting on December 14, 2000 are summarized for the information of those members absent and as a reminder to those present.

1. Board Actions

- a. The Board approved the report and recommendations of the Task Force on International Issues in Science & Engineering, *Toward a More Effective NSF Role in International Science and Engineering*, NSB-00-217.
- b. The Chairman established a Task Force to lead preparations for the annual NSB retreat, naming Anita Jones Chair, with members Drs. Armstrong, Jaskolski and Suzuki, and Dr. Cehelsky as Executive Secretary.
- c. The Board approved the recommendations of the Public Service Award Advisory Committee for individual and group awardees for 2001. The winners will be announced after the Chairman notifies them.
- d. The Board approved the list of candidates for the NSB class of 2008 as recommended by the Ad Hoc Committee on Nominations. The list will be submitted to the White House in mid-February.

2. Awards

The Board approved the following RFP:

Amount not
to exceed

Social and Behavioral Sciences

Division of Science Resources Studies
Request for Proposals and Award of a
Contract for Conduct of the Doctorate
Data Project (DPP)
(NSB-00-207)

\$18,000,000
60 months

3. NSB Committees

(Committee summaries are provided by executive secretaries.)

a. Executive Committee

The Executive Committee received a status report from the Director on the NSF budget and discussed plans for the NSB retreat in February 2001.

b. Audit & Oversight (A&O)

Regular

Reports were provided on issues related to NSF awardee compliance with certifications and requirements, the FY00 Federal Managers' Financial Integrity Act (FMFIA) report and NSF's management controls review for the past fiscal year. The chartering of a new NSF Business and Operations Advisory Committee was discussed. Updates were provided on the use of electronic signatures for grant proposals, GPRa and the NSF financial statements and audit. Last year's reportable condition on property controls in the Antarctic has been resolved and is no longer a reportable condition.

Supervisory

Dr. Boesz briefly discussed the Management Challenges Letter that the OIG was requested to prepare for Senator Thompson of the Senate Committee on Governmental Affairs. The Committee also was informed of the OIG's plans for audits in the upcoming year, and heard two presentations concerning an on going investigation and audit.

c. Programs and Plans (CPP)

The Committee on Programs and Plans (CPP) received a presentation on scientific ocean drilling, including agreements governing the current program, accomplishments, and new opportunities and research. The presentation outlined ongoing international scientific planning for an Integrated Ocean Drilling Program post-2003, including plans for both a light drill ship and a heavy, riser-equipped drill ship.

The Committee was briefed on the external review of the management of the National Optical Astronomy Observatories (NOAO). NSF response to the review noted the need for a strong endorsement of a forward-looking strategy, and concluded that an open competition for the management of NOAO is in the best interest of U.S. astronomy. CPP supported the NSF response.

The CPP Task Force on Science and Engineering Infrastructure reported on discussions of its terms of reference, work plan and timetable. The terms of reference are being refined, to focus on research infrastructure used by the academic community. A work plan has been outlined to assess the current infrastructure; identify gaps where data are needed; assess the changing character of S&E infrastructure; and consider some key policy and management issues. As part of its infrastructure considerations, CPP also continued its discussion of planning for cyber infrastructure, including terascale systems.

The Committee received an update on activities related to the NSB Environment Report. Highlights from the initiative for Biocomplexity in the Environment were provided, including the recent suite of awards and theme areas for the future. The first meeting of the new Advisory Committee for Environmental Research and Education has been held, with another meeting planned for February 2001. Emerging five-year goals for the environmental portfolio were described, as well as “grand challenges” in environmental science recently identified in a National Academy report. CPP also discussed the potential for interagency and international partnerships in environment activities.

d. CPP Subcommittee on Polar Issues (PI)

OPP staff reviewed recent developments regarding the South Pole Station Modernization Schedule and enhanced health and safety programs; use of automated and remote underwater vehicles to collect data from the Arctic oceans; the results of social science research on the impact of global change on northern populations; the study of iceberg formation and activity in the Antarctic during 2000; and developments from the Joint Global Ocean Flux Study, particularly with regard to the Southern Ocean.

e. CPP Task Force on S&E infrastructure (INF)

The task force agreed on an initial workplan, timetable and scope (terms of reference) for the study, which were endorsed by the CPP. There was consensus that the study should focus primarily on the infrastructure needs of the academic research community, and in fields where NSF stakeholders have an interest. The workplan addresses four key tasks: (1) assessing the current S&E infrastructure, using readily available information; (2) identifying gaps where additional information is needed, and proposing ways to obtain it; (3) assessing the changing character, needs and opportunities of the infrastructure, and (4) assessing the current policy and management framework for providing and maintaining S&E infrastructure. The task force will endeavor to complete the study by June 2002.

f. Education and Human Resources (EHR)

The committee heard a presentation on NSF’s request for approval to issue an RFP for the conduct of two surveys to collect data on persons with doctorate degrees in science and engineering. The committee recommended approval.

The committee also heard reports from the Indicators Subcommittee and the Task Force on National Workforce Policies for Science and Engineering. The chair of the Indicators Subcommittee reported that good progress is being made in revising the report. The chair of the Task Force on Workforce presented the plan and schedule for their report, which the EHR committee approved.

The rest of the meeting was devoted to the discussion of the NSF Niche in K-16 and plans for completing a report on the associated policy issues. The question of the NSF Niche was a major topic at the last meeting of the EHR Advisory Committee in November. The committee heard from Clara Tolbert and Karl Pister, consultants to the GPRA subcommittee of the EHR Advisory Committee, who presented their views of the key issues raised during the niche discussion in November. Judy Sunley then described a set of principles to set the context for defining the NSF Niche in K-16 and summarized her view of the key issues raised during the EHR Advisory Committee meeting. Susan

Millar, a member of the EHR Advisory Committee, also offered her perspective on how NSF can more effectively transfer results of their projects to practitioners.

The subsequent discussion covered a broad range of issues and factors related to both niche definition and the formulation of policy. An outline for the report on NSF's Niche was proposed and agreed to.

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

The S& E Indicators Subcommittee received revised draft thematic outlines for four chapters: International Research and Development: Funds and Alliances; Industry, Technology, and the Marketplace; Science and Engineering Workforce; and Significance of Information Technology. These chapters were revised by SRS staff based on Subcommittee discussions during two teleconferences held on November 20. Regarding the Science and Engineering Workforce chapter, it was again stressed that there is a need to disaggregate data as much as possible, e.g., data on Hispanics and Asians. In addition, SRS staff will try to secure more data on the IT workforce educational background and include a textbox on the various types of jobs that people do with S&E degrees.

The Subcommittee approved the four revised chapter outlines and directed SRS to proceed drafting the chapters. Subcommittee members will be asked to recommend Board members and external reviewers for each draft chapter.

The subcommittee was informed that draft chapters will be available for review no earlier than mid-April through early May 2001 (2 chapters per week). These chapters will not be ready for review earlier because of data availability. Looking ahead to the *2004 Indicators*, Rolf Lehming informed the subcommittee that he will provide a workplan for a new chapter on the environment for consideration at the March 2001 meeting. The subcommittee requested a dissemination plan for *Indicators-2002* from OLPA at its meeting in March.

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

The task force discussed members' comments on the draft workplan. Members agreed to focus on issues for which there is a sound empirical base. The core issues to be addressed are: immigration and graduate training, math and science teachers, and continuous skill and knowledge development. With these revisions, the Task Force recommended approval of the workplan (NSB/EHR/NWP 00-4) to the EHR Committee. It then turned to a list of other operational concerns, namely, how contractor reports and briefings could support the work of the Task Force. A briefing was tentatively scheduled for January 30, 2001, on various workforce-relevant databases and gaps in knowledge. An updated reference list (NSB/EHR/NWP 00-2) and a package of new documents was distributed.

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

Dr. Norman Neureiter, the new Science and Technology Advisor to Secretary of State Madeleine Albright, gave a presentation to task force members and other attendees about his first three months in his new job. He described some of the steps he has been taking

to try to advance the integration of science and engineering into the foreign policy process.

The task force also discussed the Board member comments on the NSF guidance report, made some changes in response to those comments, approved the revised report, and asked that it be distributed to the full Board for approval at Thursday's full Board meeting.

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

The Committee heard from Frank Cushing, Chief of Staff, House Appropriations Committee, on the Congressional process that produces the research budget, and on needs for scientific input to inform Congressional decisions on allocations for research. The Committee discussed its draft report. A revised paper will be prepared and mailed to Committee members in December for comment, and then shared with the full Board for comment and revision, and then considered by the Executive Committee in January for distribution as a draft discussion paper to participants in the January 31-February NSB Symposium.

Marta Cehelsky
Executive Officer