

NATIONAL SCIENCE BOARD

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\$3,950,000

The National Science Foundation (NSF) Appropriations Act of 2002 provided for a separate appropriation line item for the National Science Board (NSB) beginning in FY 2003. Accordingly, this FY 2005 Budget Request identifies the resources needed to support the Board, including amounts for personnel compensation and benefits, authorized travel, employment of experts and consultants, and other appropriate expenses. The NSB Request is \$3.95 million, an increase of \$70,000, or 1.8 percent, over the FY 2004 Estimate of \$3.88 million. The FY 2005 Budget Request will enable the NSB to fulfill its policy-making and oversight responsibilities for the NSF and provide guidance on significant national policy issues in science and engineering research and education, as required by statute.

National Science Board Funding (Dollars in Millions)

	FY 2003 Actual	FY 2004 Estimate	FY 2005 Request	Change over FY 2004	
				Amount	Percent
Personnel Compensation and Benefits	1.04	1.54	1.62	0.08	5.2%
Other Operating Expenses	1.84	2.34	2.33	-0.01	-0.4%
Total	\$2.88	\$3.88	\$3.95	0.07	1.8%
Full-Time Equivalent Employees	9	12	12	0	0.00%

Background on the National Science Board

As an independent federal agency, NSF does not fall under any cabinet department; rather NSF's activities are guided by the NSB. The Board was established by the Congress in 1950 and provided with dual responsibilities to: a) oversee and guide the activities of, and establish policies for, the NSF; and (b) serve as an independent national science policy body that renders advice to the President and the Congress on policy issues related to science and engineering that have been identified by the President, Congress, or the Board itself. The NSB has 24 members appointed by the President and confirmed by the Senate. NSB members, who serve six-year terms in intermittent appointments, are drawn from industry and universities, and represent a variety of science and engineering disciplines and geographic areas. They are selected for their preeminence in research, education or public service. The NSF Director is also a full voting member (*ex officio*) of the Board.

In recent years, the NSB has met about five to six times a year to review and approve major NSF awards and new programs. It also initiates and conducts studies and reports on a broad range of policy topics, and publishes occasional policy papers or statements on issues of importance to U.S. science and engineering research and education. The Board analyzes NSF's budget to ensure progress and consistency along the strategic direction set for NSF and to ensure balance between initiatives and core programs. In addition, it identifies issues that are critical to NSF's future, and approves NSF's strategic budget directions and the annual budget submission to the Office of Management and Budget.

National Science Board Activities

The Board is required to establish the Foundation's policies within the framework of applicable national policies as set forth by the President and the Congress, and therefore approves and supports the strategic Government Performance and Results Act (GPRA) goals of the Foundation, including those identified in

the President's Management Agenda (PMA). The Board conducts continuous assessment of the quality, relevance and performance of the Foundation's award making, as called for in the R&D Investment Criteria of the PMA. The NSF Director's Report on Merit Review is presented to the Board each year, allowing the NSB to monitor the quality and effectiveness of this keystone Foundation process. The Board has received reports from the chair of the Foundation's Advisory Committee on GPRA Performance Assessment, and reviews and approves the summary results of the Foundation's annual GPRA performance goals and the updates of the NSF Strategic Plan.

The NSB issues policy guidance in the form of official statements and resolutions dealing with topics such as the Foundation's merit review criteria, cost sharing with universities, and funding and oversight of major research infrastructure projects. The Board is also responsible for direct review and approval of the largest Foundation awards, and is responsible for the review and approval of major facilities and research infrastructure projects at all stages of development, including budget planning, review of proposals and management effectiveness, and approval of awards.

Much of the work of the Board is accomplished in committees, which make recommendations to the full Board for approval. In 2001, the Board established a Committee on Strategy and Budget (CSB) to focus on strategic planning and budget initiatives for NSF and lead the review of the Foundation's annual budget request. CSB also led the development of the Board's response to a Congressional directive for NSF to prepare a report to the Congress addressing NSF's budgetary and programmatic growth provided for by the NSF Act of 2002. The NSB report entitled, *Fulfilling the Promise: Report on the Budgetary and Programmatic Expansion of the National Science Foundation*, was presented to the Congress in December 2003 and focused on: a) how the increased funding should be used, b) the impact that the increases will have on the Nation's Science and Technology (S&T) workforce, c) how to enable institutions of higher education to expand their participation in NSF-funded activities, d) the national S&T research infrastructure needed to support NSF's increased funding, and e) the impact the budgetary increases will have on the size and duration of NSF grants.

The Committee on Education and Human Resources (EHR) focuses on Foundation activities in such priority areas as Science and Engineering (S&E) workforce development, math and science education, and underrepresented populations and regions in S&E programs. Occasionally, the Board establishes subcommittees, temporary formal task forces and *ad hoc* task groups to study and report on specific policies issue related to science and engineering research and education. The EHR Subcommittee on Science and Engineering Indicators manages the process for development and review of the Board's biennial statistical report on S&E indicators. The EHR Task Force on National Workforce Policies for Science and Engineering recently completed its assessment of long-term national workforce trends and needs in science and engineering and their relationship to existing federal policies. A task force report with specific recommendations for strategies that will address long-term S&E workforce needs was presented to, and deliberated by, the full Board. A final report entitled, *The Science and Engineering Workforce/Realizing America's Potential*, was published by the NSB in November 2003.

The members of the Committee on Programs and Plans (CPP) review proposals for major awards (i.e., Major Research Equipment and Facilities Construction awards), the health of the Foundation's peer review system, and program performance and accountability. The Board monitors the critical infrastructure that supports research in Antarctica through the CPP Subcommittee on Polar Issues. A new CPP *ad hoc* Task Group on Long-lived Data Collections (LLDCs) is focusing on identifying policy issues and concerns for the future related to long-lived data collections for researchers supported by NSF. Issues being explored include long-term funding and re-competition, adoption of standards, maintenance of data in laboratories of individuals versus data in large managed collections, accessibility, and planning for cross-disciplinary users. The *ad hoc* LLDC Task Group will address LLDC policy issues as perceived by the research community, emerging policy issues, and concerns for the future. A new CCP *ad hoc* Task

Group on High Risk Research is focusing on studying and developing policies that will assist NSF to develop and strengthen its ability to identify and fund innovative, potentially transformative, research, and to evaluate its success in doing so. The *ad hoc* Task Group on High Risk Research will solicit input from the scientific community on improving the processes by which high-risk research activities are identified, reviewed, and funded as well as the processes by which the selection and funding procedures are evaluated.

The standing Committee on Audit and Oversight (A&O) oversees the operations of the Foundation's Office of Inspector General (OIG), as well as NSF compliance with new procedures for financial accountability and information technology security. The NSF Inspector General reports directly to the A&O Committee and assists the Board in overseeing the complex and challenging operation of NSF. In November 2003, the A&O Committee reviewed and recommended full Board endorsement of the NSF Office of Inspector General's (OIG) *Semiannual Report to the Congress*. This report, endorsed by the full Board, highlights the activities of the OIG for the six-month period ending September 30, 2003.

National Science Board FY 2005 Budget Request

The Board's Budget Request for FY 2005 seeks resources to carry out its statutory authority and to strengthen the Board's oversight responsibilities for the Foundation in an era of significant budgetary and programmatic expansion. The Foundation continues to provide accounting, logistical and other necessary resources in support of the NSB and its missions, including expert senior S&E staff serving as a cadre of Executive Secretaries to Board Committees.

By statute, the Board is authorized five professional positions and other clerical staff as necessary. The Board, in consultation with the Congress, has defined these professional positions as senior science and engineering policy NSB staff, and the clerical positions as NSB staff that support Board operations and related activities. Together, the NSB Office (NSBO) staff provides the independent resources and capabilities for coordination and implementation of S&E policy analyses and development and operational support that are essential for the Board to fulfill its mission.

At the urging of Congress, in FY 2003 the Board began examining options for augmenting its professional staffing levels. At its May 2003 meeting, the Board decided to begin a process to assess the feasibility of recruiting for positions that would broaden its policy support, provide additional legal advice, and enhance the Board's capabilities in advanced information technology. As an initial step in this process, in August 2003 the Board appointed a new NSB Executive Officer who also serves as the NSBO Director. At the direction of the Congress, the NSB Executive Officer now reports directly to the NSB Chair. In October 2003, the NSB Chair notified the Congress that he had charged the NSB Executive Officer with identifying options for broadening the NSBO staff capabilities to better support the broad mission of the NSB. The National Academy of Public Administration (NAPA) is also currently examining issues related to NSF's organizational, programmatic, and personnel structures, as well as potential changes in the NSB's functions and processes related to recent legislative mandates and increases in NSF funding. The NAPA report is due to be published in mid-FY 2004 and will also be factored into the NSB Executive Officer's staffing assessment. Hence, the fiscal impact of the results of this assessment will begin in FY 2004. However, the full impact of increasing the number of professional positions closer to the statutory level is expected to occur in FY 2005, with increased attention to addressing new skill requirements.

Personnel Compensation and Benefits and General Operating Expenses

(Dollars in Thousands)

	FY 2003 Actual	FY 2004 Estimate	FY 2005 Request
<i>Personnel:</i>			
Personnel Compensation and Benefits	1,042	1,540	1,620
<i>General Operations:</i>			
NSBO Staff Development and Training	1	20	25
Advisory and Assistance Services	1,452	1,400	1,450
Other Services	3	260	210
Travel and Transportation of Persons	228	451	446
Communications, Supplies and Equipment	141	200	190
Representation Costs	9	9	9
TOTAL	\$2,876	\$3,880	\$3,950

Enhanced Board responsibilities established in the NSF Authorization Act of 2002 (PL 107-368) and directed by Congressional Report language include: an expanding role in prioritization and approval of Major Research Equipment and Facilities Construction projects; new requirements for meetings open to the public; and responsibilities for reporting on the Foundation's budgetary and programmatic expansion, with specific focus on projected impact on the science and technology workforce, research infrastructure, size and duration of grants awarded, and underrepresented populations and regions. The National Academies, in response to a Congressional request, will also soon be releasing their final report of a study examining how NSF sets priorities among multiple competing proposals for construction and operation of large-scale research facility projects to support a diverse array of disciplines. This report will provide recommendations for: (a) optimizing and strengthening the process used by the NSF to set priorities among large research facility project proposals and to manage their incorporation into the President's budget, (b) improving the construction and operation of NSF-funded large research facility projects, and (c) the role of the current and future availability of international and interagency research facility projects in the decision-making process for NSF funding of large research facility projects. Recommendations from this study will be considered with due diligence by the Board as they develop and implement options for meeting their enhanced responsibilities.

In addition to its essential NSBO resources and capabilities, external advisory and assistance services are especially critical to support production of NSB reports, and supplement NSBO's general research and administration services to the Board. These external services provide the Board and its NSBO with the flexibility to respond both independently and quickly to congressionally mandated studies (i.e., NAPA and the National Academies), the natural and rapid evolution of the U.S. S&E enterprise, and to topics and issues related to the U.S. maintaining its global leadership in S&E related innovation and discovery.