

## **SUMMARY OF NATIONAL SCIENCE BOARD ACCOMPLISHMENTS DURING WARREN WASHINGTON'S TENURE<sup>1</sup>**

Dr. Washington has completed a productive 12-year tenure on the National Science Board (NSB). He was appointed to the Board by the President Clinton in 1994 and reappointed six years later by Clinton to serve a second six-year term. His colleagues on the Board elected him to Board Chair in 2002, and re-elected him for a second two-year term as Chair in 2004.

Dr. Washington has provided wise and steady leadership as the Board and Congress worked together over the past few years to enhance the Board's congressionally mandated oversight and policy role for the National Science Foundation, and to strengthen the Board's advice to the President and Congress.

Dr. Washington was a welcome sight in the halls of Congress, meeting with members and staff, and testifying before committees in support of NSF budget requests and in response to congressional questions.

In the FY 2003 appropriations bill, Congress recognized the critical importance of a strong independent Board and gave the Board a separate line item budget. Dr. Washington has used this budget authority to reshape Board operations to effectively meet congressional and administration mandates and respond to various information requests, expand public involvement in the process of developing policy, and improve oversight of NSF activities.

One of Dr. Washington's early Board achievements (1996-1997) was the establishment of criteria for reviewing NSF proposals. He chaired the NSB-NSF Task Force on Merit Review that crafted the two criteria now used for selecting proposals for funding. These criteria encourage researchers to address both the intellectual merit and the broader impacts of their proposed work.

In 2003, under Dr. Washington's chairmanship, Board meetings and deliberations became much more open in accordance with the Government in the Sunshine Act. The Board:

- Invited public attendance at Board and committee meetings
- Provided much more information to the public in a more timely manner regarding NSB meeting discussions and decisions,
- Solicited public comment during the development of Board publications.
- Expanded a Board practice of holding its data gathering workshops around the country to increase opportunities for the public to attend Board activities.

He worked to strengthen the Board's congressionally mandated oversight and policy guidance of the National Science Foundation by:

- Supervising the NSF Office of the Inspector General
- Approving NSF's annual budget requests to OMB
- Reviewing and approving NSF's Strategic Plan and establishing major investment priorities.

---

<sup>1</sup> Mostly prepared by the National Science Board staff

- Carefully reviewing and approving significant and vital investments in Major Research Equipment and Facilities Construction,
- Monitoring the Foundation's internationally recognized gold-standard merit review system, including reporting to congress on the status on that system.

The Board has given valuable advice to the President and to the Congress through a variety of studies, publications, meetings, and testimony. Most notable is the Board's biennial (every other year) Indicator's report that summarizes a wealth of information about science and engineering in our nation and internationally. This report is prepared by excellent NSF staff with Board oversight. The Board examines these objective statistics and produces a companion document that highlights important findings. The Board's 2006 companion piece focused on vital education issues that have tremendous potential for affecting our quality of life.

Other recent informative NSB reports address:

- the importance of expanded funding for science and engineering infrastructure (NSB-02-190);
- the need to nurture and maintain an active U.S. S&E Workforce (NSB-03-69);
- the process by which Major Research Equipment and Facilities Construction proposals are developed, prioritized and funded (NSB-05-77) Under the revised process, last year the Board approved six major NSF awards totaling over \$540 million, and approved the termination of an MREFC project;
- the importance of establishing policies for supporting and maintaining long-lived digital data collections (NSB-05-40);
- the need to broaden participation of underrepresented groups in science and engineering faculty (NSB-04-41).
- provided a letter report to Congress of findings and recommendations on the subject of Federal science agencies policies concerning the suppression and distortion of research findings. Specifically, the Board examined existing policies of Federal science agencies with respect to quality and credibility of research results<sup>2</sup>.

During Dr. Washington's tenure, the Board has examined budget scenarios with expected expansion (*Fulfilling the Promise*, NSB-03-151), and provided a bold new vision for NSF in the 21<sup>st</sup> century (*2020 Vision*, NSB-05-142). These reports have been useful to Congress for shaping budget priorities.

In addition to accomplishments during his term as chairman, Dr. Washington has also set in motion a series of activities that will reach fruition after he has left the Board. These include on-going work on:

- the identification, development, and funding of transformative research;
- hurricane science and engineering;
- international collaborations; and
- establishment of a high-level education commission to address some of the critical issues facing our science, technology, engineering and mathematics education in our nation. To ensure that America's many voices were heard in the establishment of the commission,

---

<sup>2</sup> [http://www.nsf.gov/nsb/meetings/2006/0509/major\\_actions.pdf](http://www.nsf.gov/nsb/meetings/2006/0509/major_actions.pdf)

the Board held three public hearings (with simultaneous Web casts) on 21st Century Education in Science, Mathematics and Technology with Members of Congress testifying in two, on Capitol Hill; in Boulder, Colorado; and Los Angeles, California.

A recent independent survey has indicated that during Dr. Washington's 4-year term as The Board has produced 20 major reports.

The following is an annual overview of major Board accomplishments over the last 3 years.

## **2003 ACCOMPLISHMENTS**

### **Mission Accomplishments**

In terms of our mission to provide oversight and policy direction to the Foundation, the Board has:

- Reviewed and endorsed the Office of Inspector General Semi-annual Reports to Congress, and approved NSF management responses,
- Approved the NSF FY05 budget request for transmittal to OMB,
- Approved the NSF Major Facilities Management and Oversight Guide,
- Approved the Foundation's Merit Review Report, and
- Provided review and decisions on 12 major awards or proposal funding requests

### **In terms of providing policy direction to the Foundation, the Board has:**

- Issued an official Statement on Infrastructure (NSB-03-23)
- Reviewed and approved the NSF Strategic Plan 2003-2008 (August)
- Developed a broad set of recommendation for allocation of authorized increases in funding resources to the Foundation

### **In terms of advice to the President and the Congress, the Board has:**

- Published the Infrastructure Report (NSB-02-190)
- Published the Workforce Report (NSB-03-69)
- Reported on Delegation of Authority in accordance with Section 14 of the Authorization Act.
- Developed and delivered a budget expansion report in accordance with section 22 of the Authorization Act
- Prepared and approved the 2004 S&E Indicators Report
- Provided Testimony to Congressional Hearing
- Interacted with OSTP meetings and forum on S&E issues, and
- Responded to specific questions and inquiries from Senators and Representatives.

### **Improved Outreach and Communication by the Board**

In 2003 the Board meetings and deliberations became much more open in accord with the Sunshine Act. In an effort to facilitate more openness, we:

- Approved new guidelines for attendance at NSB meetings,
- Provided public notice of all our meetings in press releases, the Federal Register and on the NSB website,
- Include tele-conferences of committees as open meetings,
- Provide much more information in a more timely manner regarding meeting discussions and decisions, and
- Encourage public comment during the development of Board publications.

During the last year, and especially since August 2003, the Board has made a major effort to increase and improve our outreach and communications with the Hill, other agencies, various interest groups and the outside S&E research and education community.

For example, since August 2003, The Board Office has prepared a number of PowerPoint presentations for several Board Members to use in order to provide general overviews of the Board, as well as specific topics such as Issues and Problems with Diversity, Review Standards for Regulatory Science and Technical Information, and S&E workforce issues.

The Board for the first time hired its own Executive Officer, Dr. Michael Crosby, who also serves as the Director of the National Science Board Office. He has arranged for a number of very useful meetings for the Chair and other Board Members with key Hill staff, and senior officials at the White House Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP).

On behalf of the Board, he has also been very active in regularly meeting directly with key staff on the Hill, at OSTP and at OMB on a variety of topics. Through these efforts, he has been instrumental in significantly improving our outreach and communication with these important entities.

### **Impact of Board**

A survey of major science publications and the public press, both printed and television, indicate that the recent Workforce Report along has been referred to over 30 times in domestic and international arenas.

This clearly indicates that the Board seems to have a considerable impact with at least some of its reports. However, this cursory survey was neither comprehensive nor strategic.

Washington has asked our Executive Officer to develop a comprehensive tracking and evaluation system that will assist the Board in determining how effective we are in influencing S&E research and education both in the US and globally.

### **Thematic Accomplishments**

One thematic area of significant focus and accomplishment for the Board was dealing with S&E research and education workforce issues.

- We produced *The Science and Engineering Workforce/Realizing America's Potential*
- We organized the EHR Workshop, *Broadening Participation in Science and Engineering Research and Education*
- HER also has developed the Three-groups Initiative on the Educational Pipeline, and
- We have highlighted significant and complicated issues surrounding Visa for foreign S&E researchers and students.

The Board has also continued its recognition of outstanding S&E accomplishments through the:

- Vannevar Bush Award -- Dr. Richard Atkinson, president of the University of California
- Alan T. Waterman Award -- Dr. Angelika Amon, Assistant Investigator with the Howard Hughes Medical Institute at the Massachusetts Institute of Technology
- Public Service Award (Individual) -- Dr. Kathryn Sullivan, president and chief executive officer of the Center for Science and Industry, and
- Public Service Award (Group) -- Council for the Advancement of Science Writing, and the Earth and Sky radio series.

2003 also saw the Board initiate examination of issues related to:

- The process by which Major Research Equipment and Facilities proposals are developed, prioritized and funded,
- NSF policies for Long-lived Data Collections, and
- The identification, development and funding of Innovative or High Risk Research.

## **2004 ACCOMPLISHMENTS**

### **NSF Oversight and Policy Direction**

A significant example of the board's effort to provide oversight and policy direction to NSF is our ongoing revision of the process for the identification, review, approval and prioritization of large facilities projects.

The Board also revised NSF policy on cost sharing to eliminate NSF program specific cost sharing requirements and require only the statutory cost sharing of 1 percent.

### **Advice to the President and Congress**

In terms of advice to the President and Congress, the Board published and disseminated several important reports, including:

- *Fulfilling the Promise: A Report to Congress on the Budgetary and Programmatic Expansion of the NSF*;
- *Science and Engineering Indicators 2004*, and *An Emerging and Critical Problem of the Science and Engineering Labor Force: A Companion to S&E Indicator 2004*;
- *Broadening Participation in Science and Education Faculty*; and
- Initiated the *Science and Engineering Indicators 2006* report.

Further, the NSB reported on Delegation of Authority in accordance with Section 14 of the Authorization Act, provided testimony to congressional hearings, interacted with Office of Science and Technology Policy meetings and forum on science and engineering issues; and responded to other specific questions and inquiries from Congress.

### **Improved Outreach and Communication by the Board**

In 2004, the Board meetings and deliberations became more open in accordance with the Sunshine Act.

The Board also significantly increased and improved its direct outreach and communication with OMB, OSTP, Congress, other Federal agencies, various interest groups and the outside science and engineering research and education community.

### **Thematic Accomplishments**

One thematic area of significant accomplishment was transformative or "high risk" research where the Board organized a Workshop on *Identifying, Reviewing, and Funding Transformative Research* and established within the Committee on Programs and Plans a Task Force on Transformative Research.

Another thematic area of accomplishment this year was long-lived data collections where the NSB established within the Committee on Programs and Plans a Task Force on Long-Lived Data Collections; and prepared a report, *Long-Lived Data Collections: Enabling Digital Research and Education in the 21<sup>st</sup> Century*.

The year 2004 also saw the Board's examination of NSF issues related to broadening participation in science and engineering; as well as efforts toward obtaining industry perspectives on workforce issues.

The Board has also continued its recognition of outstanding science and engineering accomplishments through the Vannevar Bush Award; Alan T. Waterman Award; and Public Service Awards.

## **2005 ACCOMPLISHMENTS**

### **NSF Oversight and Policy Direction**

A significant example of the Board's effort to provide oversight and policy direction to NSF was the completion of a revised process for the identification, review, approval and prioritization of large facilities projects, approved 6 major NSF awards totally over \$540M, and approved the termination of an MREFC project.

The Board also approved a policy statement on Respective Roles of NSF and OIG in the Settlement of Administrative Investigatory Matters, as well as approved Guidance for NSF Centers Programs.

Perhaps most importantly, we approved the National Science Board 2020 Vision for the National Science Foundation.

### **Advice to the President and Congress**

In terms of advice to the President and Congress, the Board published and disseminated several important reports, including:

- *Long-Lived Digital Data Collections*
- Review of the NSF Merit Review system

We were informed on Wednesday that the President has authorized release of the 2007 *Science and Engineering Indicators* report. The Board is planning on holding our major public "roll out" press conference later this month to release this report along with the Board Companion Piece that focuses on STEM education.

Further, the NSB provided testimony to congressional hearings, and responded to other specific questions and inquiries from Congress.

### **Improved Outreach and Communication by the Board**

The Board also continues to increase and improve our direct outreach and communication with OMB, OSTP, Congress, other Federal agencies, various interest groups and the outside science and engineering research and education community.