Calendar No. 734

107TH CONGRESS *2d Session*	SENATE	REPORT 107–317

THE NATIONAL SCIENCE FOUNDATION DOUBLING ACT

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ON

S. 2817

OCTOBER 16, 2002.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

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(II)

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THE NATIONAL SCIENCE FOUNDATION DOUBLING ACT

OCTOBER 16, 2002.—Ordered to be printed

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

[To accompany S. 2817]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 2817) to authorize appropriations for fiscal years 2003, 2004, 2005, 2006, and 2007 for the National Science Foundation, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The National Science Foundation Doubling Act, S. 2817, would authorize a doubling of funding for the National Science Foundation (NSF) over the next 5 years.

BACKGROUND AND NEEDS

Federal investment in science and technology over the last 50 years have yielded enormous benefits to the economy, national security, and quality of life in the United States. It has been estimated that technological advances are responsible for about one-half of the nation's economic growth. Nearly every Federal agency conducts research and development (R&D) in order to further its missions, as well as to investigate basic scientific questions and explore technologies that the private sector cannot justify funding in the short term. Federal funding of R&D is closely linked to market products: 70 percent of all patent applications recognize non-profit or Federally-funded research as a core component of the innovation being patented.

Established in 1950, the NSF is the Federal agency designated to support academic research in the United States across the full

range of scientific and engineering disciplines. To fulfill this responsibility, it supports grants for university and college research, and for science, engineering, and mathematics education, including K–12 and university education. The NSF provides grants for these purposes. It does not operate any research laboratories of its own.

The NSF is responsible for key national initiatives that will push the frontiers of scientific understanding like nanotechnology, biocomplexity, information technology research, mathematics research, and social and behavioral sciences. Nanotechnology, the next industrial revolution, has been identified as a national priority by many of the United States' strategic competitors such as European countries and Japan. Without appropriate funding, we risk falling behind other nations in this revolutionary research.

Over the past few years, Congress has invested heavily in biomedical science funded by the National Institutes of Health (NIH). Nonetheless, recent advances in biomedical science have relied on advances in fields that are not traditionally funded by NIH, but rather fields that are funded by the NSF, such as computer science, physics, and chemistry. For example, the sequencing of the human genome was enabled by powerful computers networked in innovative ways. For this reason, increased funding for NSF would complement the already substantial Federal investment in NIH.

One example of a field where more investment is needed is ocean science. The National Ocean Research Leadership Council, which is currently chaired by the NSF Director, recently released a report entitled, "Charting the Future for the Academic Research Fleet." That report proposed a plan for the staged replacement and modernization of the academic research fleet, which is essential for cutting edge ocean sciences research. The NSF should work with the United States Navy to make the necessary investments to implement this plan.

In addition, the Hart-Rudman Commission on National Security and former Speaker of the House of Representatives, Newt Gingrich, have warned that our failure to invest in science and the need to reform math and science education is the second biggest threat to our national security. The NSF is well positioned to address this threat with its support for scientific research and efforts to improve math and science

Grant Size. The average NSF grant in fiscal year 2000 was $93,000 and had a duration of just under three years. By comparison, the average NIH grant in fiscal year 2000 was $283,000 over four years. Increasing the size and duration of grants will enable researchers to concentrate on discovery, rather than grant proposals. Dr. Alan I. Leshner, Chief Executive Officer of the American Association for the Advancement of Science, testified before the Committee that "the NSF grossly underfunds every single grant that it makes, because it's trying to maximize the number of grants. So you could actually, tomorrow, double the size of every grant, and double the budget instantly and consume all the money in an extremely productive way."

Grant Selection. The NSF has been commended by the Bush Administration for its rigorous grant review process based on merit selection and peer review. Nonetheless, according to the Coalition for National Science Funding, each year the NSF can only fund 20 to 30 percent of the most highly rated proposals it receives. This

means that the nation is forgoing investment in excellent research, not because the research is not important or of high quality, but simply because of a lack of funding.

SUMMARY OF MAJOR PROVISIONS

S. 2817 would provide for a doubling of NSF research funding over the next five years. As reported, the bill would authorize $5.5 billion for fiscal year (FY) 2003, $6.4 billion for FY 2004, $7.4 billion for FY 2005, $8.5 billion for FY 2006, and $9.8 billion for FY 2007 (for further details, see table included in the section-by-section analysis below). The FY 2003 figure is approximately $500 million (15.5%) higher than the Administration's requested level.

Support for academic research, through the Research and Related Activities account, is NSF's largest activity. Most of this support is provided through NSF's six research directorates: Biological Sciences; Computer and Information Science and Engineering; Engineering; Geosciences; Mathematical and Physical Sciences; and Social, Behavioral, and Economic Sciences. In addition, NSF's Polar Research Programs Office supports scientific research in the Arctic and Antarctic. The NSF also supports K–12 and higher education in science, engineering, and mathematics through its Education and Human Resources account. The NSF's Office of Integrative Activities supports emerging cross-disciplinary research and education efforts, including funding for major research instrumentation, several university-based centers, and the Science and Technology Policy Institute.

The Major Research Equipment and Facilities Construction (MREFC) account provides funding for the construction of research facilities that provide unique capabilities at the cutting edge of science and engineering. These projects are intended to expand the boundaries of technology and offer significant new research opportunities. For FY 2003, funding would be authorized for seven projects: construction of the Atacama Large Millimeter Array (ALMA); the Large Hadron Collider; the Network for Earthquake Engineering Simulation; the South Pole Station Modernization Project; Terascale Computing Systems; Earthscope; and the National Ecological Observatory Network (NEON) Phase I.

S. 2817 would not address the transfer of 3 programs requested by the Administration to be moved to NSF from other agencies: the National Sea Grant program from the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce; the hydrologic science program from the Department of the Interior; and environmental education from the Environmental Protection Agency. The Committee has opposed these transfers and, in particular, on June 27, 2002, reported a bill (S. 2428) to reauthorize the Sea Grant program within NOAA.

The bill, as reported, would authorize NSF to continue 10 important initiatives: (1) Information Technology Research; (2) Nanoscale Science and Engineering; (3) Plant Genome Research; (4) Innovation Partnerships; (5) Mathematics and Science Partnerships; (6) Robert Noyce Scholarships; (7) the Science, Mathematics, Engineering, and Technology Talent Expansion Program; (8) Secondary School Systemic Initiative; (9) the Experimental Program to Stimulate Competitive Research (EPSCoR); and (10) activities under the Science and Engineering Equal Opportunities Act.

The NSF's Information Technology Research is part of a larger interagency program to stimulate research in computing and network engineering. NSF's program in cybersecurity research is within this area. Improving cybersecurity is increasingly important to our national and homeland security. The Committee has addressed research in this field with the Cybersecurity Research and Development Act, S. 2182, reported on August 1, 2002.

NSF's Nanoscale Science and Engineering is also a part of a larger interagency research program. Considered as the next industrial revolution, nanotechnology has the potential to radically alter science and society, similar to how breakthroughs in atomic physics, space exploration, and computers have changed the way we live and enjoy life. The Committee also addressed this issue by ordering the 21st Century Nanotechnology Research and Development Act, S. 2945, to be reported on September 19, 2002.

Plant Genome Research is an example of NSF's continued support for fundamental biology. While funding for biomedical research has dramatically increased over the past five years, that funding has not supported important work in fundamental biology, such as plant biology research.

According to "Clusters of Innovation: Regional Foundations of U.S. Competitiveness," a two-year study sponsored by the Council on Competitiveness, creating and strengthening regional competitiveness and innovation is the key to succeeding in the global marketplace and raising the U.S. standard of living. NSF's Innovation Partnerships Program would foster partnerships involving States, local, and regional governmental entities and industry, academia, and other organizations to stimulate innovation.

The Committee on Health, Education, Labor, and Pensions, in reporting S. 2817, significantly changed the provision relating to the Math and Science Partnerships, a program intended to improve math and science education in schools. Members of the Commerce Committee have expressed concerns about the introduction of formula grants at NSF. One of the strengths of NSF has been its merit-reviewed, competitive system for awarding grants. This system is a model for government programs and should not be altered in favor of formula grants.

To ensure that successful programs reach the maximum number of students, the NSF should give consideration to the benefits of awarding Math and Science Partnership grants to existing partnerships between institutions of higher education and secondary schools that have successfully developed curricula to expand educational opportunities for students in science, mathematics, engineering, and technology in multiple school districts. The institutions of higher education and secondary schools do not have to be located in the same State. Such partnerships may include developing curricula, teaching curricula and new developments in these fields to teachers, and implementing curricula in multiple school districts.

The Robert Noyce Scholarships program addresses the nation's growing need for science and math educators by providing scholarships for students who commit to a teaching career.

The number of undergraduate and graduate students entering and receiving a degree in the fields of science, mathematics, and engineering has been declining over the past 15 years. At the same

time, many of the nation's working scientists and engineers are reaching retirement age. The National Science Board recently reported that more than half of workers with science and engineering degrees will be of retirement age within 20 years. Within the Federal government, one third of the National Aeronautics and Space Administration's work force will become eligible for retirement in the next three to five years and the National Institute of Standards and Technology (NIST) has roughly one quarter (over 800 employees) of its 3,300 employees eligible for retirement this year. The nation's Federal and non-Federal technical workers are responsible for much of the scientific innovation that occurs within government and industry, spurring growth in the nation's economy. The Science, Mathematics, Engineering, and Technology Talent Expansion Program encourages undergraduates to pursue degrees in these important fields. The Secondary School Systemic Initiative also is designed to prepare high school graduates for technical employment or undergraduate studies.

The bill would continue the successful EPSCoR, a Federal-State partnership to build research capacity and competitiveness in States needing to strengthen their research programs. The program has an impressive record of supporting individual researchers, developing research clusters, and enhancing State efforts. Recently, NSF implemented a new approach to provide infrastructure support to these States, to integrate these States into NSF activities through co-funding, and to provide centers with development support. These efforts are essential to the competitiveness of the EPSCoR States and to ensuring a truly national science and technology community.

Over the past year, the Science, Technology, and Space Subcommittee has examined the involvement of minority serving institutions and of women in science and engineering. The Subcommittee has found that too many girls have not taken the courses that would prepare them to study science when they enter college. Therefore, the bill would encourage the NSF to continue its efforts under the Science and Engineering Equal Opportunities Act in order to encourage women, minorities, and persons with disabilities to pursue degrees and careers in science, mathematics, engineering, and technology related fields.

The bill also would address some criticisms of the management of NSF's MREFC account. The bill would require that MREFC projects be prioritized in a list approved by the National Science Board. The current system—in which MREFC projects are approved but not prioritized—has left several important areas underfunded or unaddressed.

LEGISLATIVE HISTORY

On Wednesday, May 22, 2002, the Subcommittee on Science, Technology, and Space held a hearing to examine the FY 2003 budget request for research & development, with a particular focus on the NSF. The Subcommittee received testimony from two panels of witnesses. The first panel included the Office of Science and Technology Policy (OSTP) Director, Dr. John H. Marburger, and the NSF Director, Dr. Rita Colwell, who offered the Administration's perspective. The second panel featured advocates of increased spending on scientific research. Representative Newt Gingrich,

former Speaker of the U.S. House of Representatives, and Mr. John Podesta, former White House Chief of Staff, discussed the importance of NSF funding in a broad context. Dr. Alan I. Leshner, CEO of the American Association for the Advancement of Science, offered an independent analysis of the Administration's R&D budget. Representatives from two universities who receive NSF and other Federal R&D funding, Dr. Marsha R. Torr, Vice President for Research of Virginia Commonwealth University and Dr. Tom McCoy, Vice President for Research at Montana State University, offered the academic communities' perspective on the NSF budget and several NSF activities.

In the Senate, both the Commerce, Science, and Transportation and the Health, Education, Labor, and Pensions (HELP) Committees have an interest in NSF. Under the terms of a 1988 unanimous consent agreement, the two committees share authorizing jurisdiction over NSF. Upon being reported by the HELP Committee, all portions of any NSF legislation—except science and engineering education—are referred sequentially to the Commerce Committee for 30 days. Science and engineering education remains solely within the jurisdiction of the HELP Committee. In this regard, S. 2817 was first referred to the HELP Committee, which ordered the bill to be reported on September 6, 2002.

On September 19, 2002, the Commerce Committee met in executive session and ordered the bill reported, as amended.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, September 26, 2002.

Hon. ERNEST F. HOLLINGS,
Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 2817, the National Science Foundation Doubling Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Kathleen Gramp.

Sincerely,

BARRY B. ANDERSON
(For Dan L. Crippen, Director).

Enclosure.

S. 2817—National Science Foundation Doubling Act

Summary: S. 2817 would authorize the appropriation of $37.7 billion over the 2003–2007 period for the activities of the National Science Foundation (NSF). Assuming implementation of the bill, NSF's appropriation would roughly double over the five-year period, increasing from $4.8 billion in 2002 to $9.8 billion in 2007. S. 2817 also would establish guidelines for allocating NSF funding

and require the Office of Science and Technology Policy (OSTP) to prepare reports on issues related to research instrumentation and program duplication. Finally, the bill would outline new procedures for protecting the confidentiality of certain information collected by NSF and impose civil penalties for violations of those procedures.

Assuming appropriation of the authorized amounts, CBO estimates that implementing this bill would cost a total of $26.1 billion over the 2003–2007 period. Provisions imposing new civil penalties could increase governmental receipts (i.e., revenues), but CBO estimates that any amounts collected would be insignificant. Because S. 2817 could affect receipts, pay-as-you-go procedures would apply.

S. 2817 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). The bill would make grants available to state and local educational agencies and institutions of higher education to support improvements in educational programs for science and mathematics. Any costs to the educational institutions would be incurred voluntarily.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 2817 is shown in the following table. For this estimate, CBO assumes that the authorized amounts will be appropriated near the start of each fiscal year and that spending will occur at rates similar to those for existing NSF programs. Based on information from OSTP, CBO estimates that the office would incur no significant costs to implement this bill. The costs of this legislation fall within budget function 250 (general science, space, and technology).

	By fiscal year, in millions of dollars—					
	2002	2003	2004	2005	2006	2007
SPENDING SUBJECT TO APPROPRIATION						
NSF Spending Under Current Law:						
Budget Authority [1]	4,802	0	0	0	0	0
Estimated Outlays	4,037	3,229	1,124	328	124	45
Proposed Changes:						
Authorization Level	0	5,536	6,391	7,378	8,520	9,839
Estimated Outlays	0	1,384	4,135	5,717	6,845	8,005
NSF Spending Under S. 2817:						
Authorization Level [1]	4,802	5,536	6,391	7,378	8,520	9,839
Estimated Outlays	4,037	4,613	5,259	6,045	6,969	8,050

[1] The 2002 level is the amount appropriated for that year for NSF plus the $13 million appropriated for Mathematics and Science Partnerships at the Department of Education, which would be transferred to NSF under this bill.

Pay-as-you-go considerations: The Balanced Budget and Emergency Deficit Control Act sets up pay-as-you go procedures for legislation affecting direct spending or receipts. Although S. 2817 could affect receipts by increasing amounts collected from civil penalties, CBO estimates that any such effects would be insignificant.

Intergovernmental and private-sector impact: S. 2817 contains no intergovernmental or private-sector mandates as defined in UMRA. The bill would make grants available to state and local educational agencies and institutions of higher education to support improvements in educational programs for science and mathematics. Any costs to the educational institutions would be incurred voluntarily.

Previous CBO estimates: On September 17, 2002, CBO transmitted a cost estimate for S. 2817 as ordered reported by the Senate Committee on Health, Education, Labor, and Pensions on Sep-

tember 5, 2002. The differences between the two versions would not affect the cost of the legislation.

On May 31, 2002, CBO transmitted a cost estimate for H.R. 4664, the Investing in America's Future Act of 2002, as ordered reported by the House Committee on Science on May 22, 2002. That bill would cover a shorter period of time, but the amounts authorized for fiscal years 2003 through 2005 are similar to the levels in S. 2817. H.R. 4664 does not include provisions regarding the confidentiality of information and therefore would not affect governmental receipts. Other differences between the two bills would not affect their cost.

Estimate prepared by: Federal Costs: Kathleen Gramp; Impact on State, Local, and Tribal Governments: Susan Sieg Tompkins; and Impact on the Private Sector: Samuel Kina.

Estimate approved by: Robert A. Sunshine, Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

The Committee believes that the bill would not subject any individuals or businesses affected by the legislation to any additional regulation.

ECONOMIC IMPACT

This legislation would not have an adverse economic impact on the Nation. It would authorize funding for basic research funding through the NSF and thus should stimulate further technological innovation and economic growth.

PRIVACY

This legislation would not have a negative impact on the personal privacy of individuals.

PAPERWORK

This legislation would not increase paperwork requirements for private individuals or businesses. It does require eight Federal reports: (1) an annual report by the NSF Director reviewing duplication in education programs; (2) a report by the NSF Director describing the impact of increasing average grant size on minority serving institutions and institutions in EPSCoR States; (3) a National Science Board report describing procedures for greater public access to its deliberations; (4) a report by the NSF Director reviewing and assessing the Major Research Instrumentation program, including findings and recommendations; (5) an Office of Science and Technology Policy report on the need to develop an interagency program for interagency research and instrumentation development; (6) an annual report by the NSF Director containing a list of funding priorities for MREFC; (7) a National Science Board annual report on the conditions of delegation relating to funds appropriate for any project in the MREFC account; and (8) a retrospec-

tive report by the NSF Director to be included in the next edition of the report required under the Science and Engineering Equal Opportunities Act (42 USC 1885) examining efforts to increase science and engineering opportunities for women, minorities, and persons with disabilities under that Act.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title

Section 1 would cite the short title of the bill as the "National Science Foundation Doubling Act."

Section 2. Definitions

Section 2 would define certain terms as follows:

"Board"—the National Science Board established under Section 2 of the National Science Foundation Act (42 USC 1861);

"Director"—the Director of the National Science Foundation;

"Eligible Applicant"—an institution of higher education or consortium thereof, or a partnership between an institution of higher education and a nonprofit organization, government or company with experience in delivering science, mathematics, engineering, or technology education;

"Foundation"—the National Science Foundation;

"Institution of Higher Education"—a term which has the meaning given in section 101(a) of the Higher Education Act of 1965 (20 USC 1001(a)); and

"National Research Facility"—a research facility funded by the Foundation which, subject to access policies, is available for use by all scientists and engineers affiliated with research institutions in the United States.

Section 3. Findings

Section 3 would list findings concerning the importance of the NSF and its research in supporting scientific research, improving science and math education, and ensuring the global competitiveness of this nation.

Section 4. Policy Objectives

Section 4 would identify the policy objectives that the NSF should use in allocating funding authorized by this legislation. These include: (1) strengthening the United States' lead in science and technology through strategic investment in basic research, a balanced research portfolio, expansion of the number of U.S. scientists and engineers, modernization of research infrastructure, and international cooperation; (2) increasing overall workforce skills through improving math and science education, providing access to information technology, encouraging the participation of underrepresented minorities and students from low-income households in post-secondary science and math education, and expanding technical training; and (3) strengthening innovation.

Section 5. Authorization of Appropriations

Section 5 would authorize appropriations for the NSF for FY 2003 through FY 2007 as follows:

($ millions)

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Research and Related Activities	4,174.8	4,842.8	5,617.7	6,516.5	7,559.1
Education	1,006.2	1,157.2	1330.8	1,530.4	1,759.9
MREFC	152.9	168.2	185.0	203.5	223.9
Salaries and Expenses	194.7	214.2	235.6	259.1	285.1
Inspector General	7.7	8.5	9.3	10.2	11.3
TOTAL **	**5,536.4**	**6,390.8**	**7,378.3**	**8,519.8**	**9,839.3**

** Total may not add, due to rounding

Section 6. Specific Program Authorizations

Section 6 would provide specific authorizations for the following programs to be carried out with funds authorized under Section 5:

- **Information Technology**—an information technology research program to support research, education and infrastructure in cybersecurity, terascale computing systems, communications and other areas.
- **Nanoscale Science and Engineering**—a program designed to support science and engineering research in emerging areas of nanoscale science and technology, including research on the societal implications of advances in nanotechnology.
- **Plant Genome Research**—a program to support research to advance our understanding of the organization and function of plant genomes and basic biological processes in plants, especially economically important plants such as corn and soybeans.
- **Innovation Partnerships**—a program designed to stimulate regional innovation through partnerships involving States, local, and regional governmental entities and industry, academia, and other organizations.
- **Math and Science Partnerships Initiative**—a wide-ranging program to improve math and science education in schools, particularly in urban and rural areas, through competitive grants in FY 2003 through FY 2005 and formula grants in FY 2006 and FY 2007.
- **Noyce Scholarships**—a program to support training for students studying to become mathematics and science educators.
- **Science, Mathematics, Engineering, and Technology Talent Expansion Program**—a program for colleges and universities to support projects designed to significantly increase the number of undergraduate degree recipients in science, math, engineering, and technology.
- **Secondary School Systemic Initiative**—a program designed to support proposals aimed at reform initiatives designed to prepare graduating high school students to comprehend scientific and technical material, and to heighten college completion rates.
- **EPSCoR—**a program designed to stimulate competitive research in EPSCoR States (which are designated under the

reported bill as States which, for the proceeding three years, received not more than one percent of the total amount of NSF research funding) by providing for activities which may include research infrastructure improvement grants, co-funding initiatives, and outreach initiatives.

• **The Science and Engineering Equal Opportunities Act**—a comprehensive program designed to increase the numbers of women, minorities, and persons with disabilities in science, mathematics, engineering, and technology related fields.

Section 7. Establishment of Research on Mathematics and Science Learning and Education Improvement

Section 7 would establish a research program to improve education and learning in mathematics and science. Competitive grants would be awarded to investigate the science of learning and teaching mathematics and to apply the results of those investigations in low-performing elementary and secondary schools. The section would provide for the submission and evaluation of grants. Grantees would be required to include participation of elementary and secondary school educators and to submit their results to the Director. The Director would be required to coordinate with the Secretary of Education.

Section 8. Duplication of Programs

Section 8 would direct the NSF Director to review NSF's education programs and terminate duplicative programs. In addition, the Director of the Office of Science and Technology Policy (OSTP) would be required to review NSF's education programs and submit a report to the Congress on its findings not later than one year after the enactment of this legislation and annually thereafter, with the budget submission.

Section 9. Major Research Instrumentation

Section 9 would instruct the NSF Director to conduct a review of the Major Research Implementation Program designed to improve the condition of scientific and engineering equipment for research and research training in our Nation's academic institutions. Additionally, the OSTP Director would be required to assess the need for and, if necessary, develop an inter-agency program to establish fully equipped, state-of-the-art, university-based centers for interdisciplinary research and advanced instrumentation development.

Section 10. MREFC Plan

Section 10 would address the prioritization of MREFC Projects. This provision would instruct the NSF Director to develop a list prioritizing funding for each MREFC project and to submit the list to the National Science Board for approval. This provision is designed to provide greater transparency to the process through which MREFC projects are evaluated, prioritized, and selected for funding.

Section 11. Administrative Amendments

Section 11 would provide for several administrative modifications. Subsection (a) would allow the National Science Board to adopt procedures governing the conduct of its meetings. Subsection (b) would address the confidentiality of certain information regarding human subjects that was previously protected by the Office of Management and Budget. That Office has instructed agencies such as NSF to seek this protection for themselves. Subsection (c) would amend current law providing for a staff for the National Science Board by allowing the Board to appoint such staff directly rather than through the Director. The Committee understands that the National Science Board would still utilize the personnel structure and other administrative functions of NSF, but would report to the National Science Board's Chair.

Section 12. Science and Engineering Equal Opportunities Act Amendments

Section 12 would amend the findings and goals of the Science and Engineering Equal Opportunities Act (42 USC 1885) to include persons with disabilities. While the operative portion of the Act in Section 1885b of Title 42 provides that the NSF is authorized to undertake or support programs and activities to encourage the participation of persons with disabilities in the science and engineering professions, the findings of the Act do not mention persons with disabilities.

Section 13. Amendment to the Elementary and Secondary Act of 1965

Section 13 would repeal part B of Title II of the Elementary and Secondary Education Act of 1965 (20 USC 6601 et seq.), which provides Math and Science partnerships such as those authorized in Section 5 of this bill through the Department of Education. This provision would take effect beginning on October 1, 2003.

Section 14. Reports

Section 14 would require two reports, within 6 months of enactment, on grant size and duration and on public access to meetings.

Grant Size and Duration. As NSF's budget moves along its doubling path, proposals for utilizing increased resources have included increasing the average grant size and duration. This provision would instruct the Director to submit a report to Congress describing the impact that such increases would have on minority serving institutions and institutions located in EPSCoR States, in an effort to ensure that the gap between institutions that already receive significant NSF funding and other institutions will not widen.

Report on Open Meetings. This provision would instruct the Chair of the National Science Board to submit a report to Congress describing proposed procedures to ensure greater public access to National Science Board deliberations.

Section 15. Evaluations

Section 15 would provide for the annual evaluation of the effectiveness of a random sample of NSF grants and for the dissemination of such evaluation.

Section 16. Report by Committee on Equal Opportunities in Science and Engineering

Section 16 would provide for a 10-year retrospective report by the NSF Director on the accomplishments and effectiveness of the NSF's efforts to expand science, mathematics, and engineering opportunities for minorities, women, and persons with disabilities.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee states that its amendment to the bill as reported would make no change to existing law.

○