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107TH CONGRESS
2D SESSION

H. R. 5714

To authorize appropriations for fiscal years 2003, 2004, and 2005 for the National Science Foundation, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 13, 2002

Mr. SMITH of Michigan (for himself, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. BOEHLERT, Mr. HALL of Texas, Mr. SMITH of Texas, Mrs. MORELLA, Mr. HONDA, Mr. EHLERS, Mr. BAIRD, Mr. ETHERIDGE, Mrs. BIGGERT, Mr. BARCIA, Mr. GILCHREST, Mr. BACA, Mr. CALVERT, Mr. UDALL of Colorado, and Ms. LOFGREN) introduced the following bill; which was referred to the Committee on Science

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A BILL

To authorize appropriations for fiscal years 2003, 2004, and 2005 for the National Science Foundation, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''National Science Foundation Authorization Act of 2002''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) The National Science Foundation has made major contributions for more than 50 years to strengthen and sustain the Nation's academic research enterprise that is the envy of the world.

(2) The economic strength and national security of the United States and the quality of life of all Americans are grounded in the Nation's scientific and technological capabilities.

(3) The National Science Foundation carries out important functions in supporting basic research in all science and engineering disciplines and in supporting science, mathematics, engineering, and technology education at all levels.

(4) The research and education activities of the National Science Foundation promote the discovery, integration, dissemination, and application of new knowledge in service to society and prepare future generations of scientists, mathematicians, and engineers who will be necessary to ensure America's leadership in the global marketplace.

(5) The National Science Foundation must be provided with sufficient resources to enable it to carry out its responsibilities to develop intellectual capital, strengthen the scientific infrastructure, integrate research and education, enhance the delivery

of mathematics and science education in the United States, and improve the technological literacy of all people in the United States.

(6) The emerging global economic, scientific, and technical environment challenges long-standing assumptions about domestic and international policy, requiring the National Science Foundation to play a more proactive role in sustaining the competitive advantage of the United States through superior research capabilities.

(7) Commercial application of the results of Federal investment in basic and computing science is consistent with longstanding United States technology transfer policy and is a critical national priority, particularly with regard to cybersecurity and other homeland security applications, because of the urgent needs of commercial, academic, and individual users as well as the Federal and State Governments.

SEC. 3. POLICY OBJECTIVES.

In allocating resources made available under section 5, the Foundation shall have the following policy objectives:

(1) To strengthen the Nation's lead in science and technology by—

(A) increasing the national investment in general scientific research and increasing investment in strategic areas;

(B) balancing the Nation's research portfolio among the life sciences, mathematics, the physical sciences, computer and information science, geoscience, engineering, and social, behavioral, and economic sciences, all of which are important for the continued development of enabling technologies necessary for sustained international competitiveness;

(C) expanding the pool of scientists and engineers in the United States;

(D) modernizing the Nation's research infrastructure; and

(E) establishing and maintaining cooperative international relationships with premier research institutions, with the goal of such relationships being the exchange of personnel, data, and information in an effort to alleviate problems common to the global community.

(2) To increase overall workforce skills by—

(A) improving the quality of mathematics and science education, particularly in kindergarten through grade 12;

(B) promoting access to information technology for all students;

(C) raising postsecondary enrollment rates in science, mathematics, engineering, and technology disciplines for individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b);

(D) increasing access to higher education in science, mathematics, engineering, and technology fields for students from low-income households; and

(E) expanding science, mathematics, engineering, and technology training opportunities at institutions of higher education.

(3) To strengthen innovation by expanding the focus of competitiveness and innovation policy at the regional and local level.

SEC. 4. DEFINITIONS.

In this Act:

(1) ACADEMIC UNIT.—The term ''academic unit'' means a department, division, institute, school, college, or other subcomponent of an institution of higher education.

(2) BOARD.—The term ''Board'' means the National Science Board established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(3) COMMUNITY COLLEGE.—The term ''community college'' has the meaning given such term in section 3301(3) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7011(3)).

(4) DIRECTOR.—The term ''Director'' means the Director of the National Science Foundation established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(5) ELEMENTARY SCHOOL.—The term ''elementary school'' has the meaning given that term by section 9101(18) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(18)).

(6) ELIGIBLE NONPROFIT ORGANIZATION.—The term ''eligible nonprofit organization'' means a nonprofit research institute, or a nonprofit professional association, with demonstrated experience and effectiveness in mathematics or science education as determined by the Director.

(7) FOUNDATION.—The term ''Foundation'' means the National Science Foundation established

under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(8) HIGH-NEED LOCAL EDUCATIONAL AGENCY.—The term ''high-need local educational agency'' means a local educational agency that meets one or more of the following criteria:

(A) It has at least one school in which 50 percent or more of the enrolled students are eligible for participation in the free and reduced price lunch program established by the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq.).

(B) It has at least one school in which—

(i) more than 34 percent of the academic classroom teachers at the secondary level (across all academic subjects) do not have an undergraduate degree with a major or minor in, or a graduate degree in, the academic field in which they teach the largest percentage of their classes; or

(ii) more than 34 percent of the teachers in two of the academic departments do not have an undergraduate degree with a major or minor in, or a graduate degree in, the academic field in which

they teach the largest percentage of their classes.

(C) It has at least one school whose teacher attrition rate has been 15 percent or more over the last three school years.

(9) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(10) LOCAL EDUCATIONAL AGENCY.—The term ''local educational agency'' has the meaning given such term by section 9101(26) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(26)).

(11) MASTER TEACHER.—The term ''master teacher'' means a mathematics or science teacher who works to improve the instruction of mathematics or science in kindergarten through grade 12 through—

(A) participating in the development or revision of science, mathematics, engineering, or technology curricula;

(B) serving as a mentor to mathematics or science teachers;

(C) coordinating and assisting teachers in the use of hands-on inquiry materials, equipment, and supplies, and when appropriate, supervising acquisition and repair of such materials;

(D) providing in-classroom teaching assistance to mathematics or science teachers; and

(E) providing professional development, including for the purposes of training other master teachers, to mathematics and science teachers.

(12) NATIONAL RESEARCH FACILITY.—The term ''national research facility'' means a research facility funded by the Foundation which is available, subject to appropriate policies allocating access, for use by all scientists and engineers affiliated with research institutions located in the United States.

(13) SECONDARY SCHOOL.—The term ''secondary school'' has the meaning given that term by section 9101(38) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(38)).

(14) STATE.—Except with respect to the Experimental Program to Stimulate Competitive Research, the term ''State'' means one of the several

States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

(15) STATE EDUCATIONAL AGENCY.—The term ''State educational agency'' has the meaning given such term by section 9101(41) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(41)).

(16) UNITED STATES.—The term ''United States'' means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

(a) FISCAL YEAR 2003.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $5,536,390,000 for fiscal year 2003.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) $4,155,690,000 shall be made available to carry out research and related activities,

of which $704,000,000 shall be for information technology research described in paragraph (1) of section 8 and $301,000,000 shall be for nanoscale science and engineering described in paragraph (2) of section 8;

(B) $1,006,250,000 shall be made available for education and human resources, of which—

(i) $200,000,000 shall be for mathematics and science education partnerships described in section 9;

(ii) $20,000,000 shall be for the Robert Noyce Scholarship Program described in section 10; and

(iii) $25,000,000 shall be for the science, mathematics, engineering, and technology talent expansion program described in paragraph (7) of section 8;

(C) $172,050,000 shall be made available for major research equipment and facilities construction;

(D) $191,200,000 shall be made available for salaries and expenses;

(E) $3,500,000 shall be made available for the Office of the National Science Board, in-

cluding salaries and compensation for members of the Board and staff appointed under section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863), travel and training costs for members of the Board and such staff, general and Board operating expenses, representational expenses for the Board, honorary awards made by the Board, Board reports (other than the report entitled ''Science and Engineering Indicators''), and contracts; and

(F) $7,700,000 shall be made available for the Office of Inspector General.

(b) FISCAL YEAR 2004.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $6,390,832,000 for fiscal year 2004.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) $4,799,822,000 shall be made available to carry out research and related activities, of which $774,000,000 shall be for information technology research described in paragraph (1) of section 8 and $350,000,000 shall be for nanoscale science and engineering described in paragraph (2) of section 8;

(B) $1,157,188,000 shall be made available for education and human resources, of which—

(i) $300,000,000 shall be for mathematics and science education partnerships described in section 9;

(ii) $20,000,000 shall be for the Robert Noyce Scholarship Program described in section 10; and

(iii) $30,000,000 shall be for the science, mathematics, engineering, and technology talent expansion program described in paragraph (7) of section 8;

(C) $211,182,000 shall be made available for major research equipment and facilities construction;

(D) $210,320,000 shall be made available for salaries and expenses;

(E) $3,850,000 shall be made available for the Office of the National Science Board for the purposes described in subsection (a)(2)(E); and

(F) $8,470,000 shall be made available for the Office of Inspector General.

(c) FISCAL YEAR 2005.—

(1) IN GENERAL.—There are authorized to be appropriated to the Foundation $7,378,343,000 for fiscal year 2005.

(2) SPECIFIC ALLOCATIONS.—Of the amount authorized under paragraph (1)—

(A) $5,543,794,000 shall be made available to carry out research and related activities;

(B) $1,330,766,000 shall be made available to carry out education and human resources, of which—

(i) $400,000,000 shall be for mathematics and science education partnerships described in section 9;

(ii) $20,000,000 shall be for the Robert Noyce Scholarship Program described in section 10; and

(iii) $35,000,000 shall be for the science, mathematics, engineering, and technology talent expansion program described in paragraph (7) of section 8;

(C) $258,879,000 shall be made available for major research equipment and facilities construction;

(D) $231,337,000 shall be made available for salaries and expenses;

(E) $4,250,000 shall be made available for the Office of the National Science Board for the purposes described in subsection (a)(2)(E); and

(F) $9,317,000 shall be made available for the Office of Inspector General.

(d) FISCAL YEAR 2006.—There are authorized to be appropriated to the Foundation $8,519,776,000 for fiscal year 2006.

(e) FISCAL YEAR 2007.—There are authorized to be appropriated to the Foundation $9,839,262,000 for fiscal year 2007.

(f) CONTINGENT AUTHORIZATION.—

(1) IN GENERAL.—Funds are authorized to be appropriated under subsections (d) and (e), contingent on a determination by Congress that the Foundation has made successful progress toward meeting management goals consisting of—

(A) strategic management of human capital;

(B) competitive sourcing;

(C) improved financial performance;

(D) expanded electronic government; and

(E) budget and performance integration.

(2) CONSIDERATION.—In making that determination, Congress shall take into consideration

whether or not the Director of the Office of Management and Budget has certified that the Foundation has, overall, made successful progress toward meeting those goals.

SEC. 6. OBLIGATION OF MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION FUNDS.

(a) FISCAL YEAR 2003.—None of the funds authorized under section 5(a)(2)(C) may be obligated until 30 days after the first report required under section 14(a)(2) is transmitted to the Congress.

(b) FISCAL YEAR 2004.—None of the funds authorized under section 5(b)(2)(C) may be obligated until 30 days after the report required by June 15, 2003, under section 14(a)(2) is transmitted to the Congress.

(c) FISCAL YEAR 2005.—None of the funds authorized under section 5(c)(2)(C) may be obligated until 30 days after the report required by June 15, 2004, under section 14(a)(2) is transmitted to the Congress.

(d) FISCAL YEAR 2006.—None of the funds authorized under section 5(d) may be obligated for major research equipment and facilities construction until 30 days after the report required by June 15, 2005, under section 14(a)(2) is transmitted to the Congress.

(e) FISCAL YEAR 2007.—None of the funds authorized under section 5(e) may be obligated for major re-

search equipment and facilities construction until 30 days after the report required by June 15, 2006, under section 14(a)(2) is transmitted to the Congress.

SEC. 7. ANNUAL PLAN FOR ALLOCATION OF FUNDING.

Not later than 60 days after the date of enactment of legislation providing for the annual appropriation of funds for the Foundation, the Director shall submit to the Committee on Science and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate, a plan for the allocation of funds authorized by this Act for the corresponding fiscal year. The portion of the plan pertaining to Research and Related Activities shall include a description of how the allocation of funding—

(1) will affect the average size and duration of research grants supported by the Foundation by field of science, mathematics, and engineering;

(2) will affect trends in research support for major fields and subfields of science, mathematics, and engineering, including for emerging multidisciplinary research areas; and

(3) is designed to achieve an appropriate balance among major fields and subfields of science, mathematics, and engineering.

SEC. 8. SPECIFIC PROGRAM AUTHORIZATIONS.

From amounts authorized to be appropriated under section 5, the Director shall carry out the Foundation's research and education programs, including the following initiatives in accordance with this section:

(1) INFORMATION TECHNOLOGY.—An information technology research program to support competitive, merit-reviewed proposals for research, education, and infrastructure support in areas related to cybersecurity, terascale computing systems, software, networking, scalability, communications, data management, and remote sensing and geospatial information technologies.

(2) NANOSCALE SCIENCE AND ENGINEERING.—A nanoscale science and engineering research and education program to support competitive, merit-reviewed proposals that emphasize—

(A) research aimed at discovering novel phenomena, processes, materials, and tools that address grand challenges in materials, electronics, optoelectronics and magnetics, manu-

facturing, the environment, and health care; and

(B) supporting new research and interdisciplinary centers and networks of excellence, including shared national user facilities, infrastructure, research, and education activities on the societal implications of advances in nanoscale science and engineering.

(3) PLANT GENOME RESEARCH.—(A) A plant genome research program to support competitive, merit-reviewed proposals—

(i) that advance the understanding of the structure, organization, and function of plant genomes; and

(ii) that accelerate the use of new knowledge and innovative technologies toward a more complete understanding of basic biological processes in plants, especially in economically important plants such as corn and soybeans.

(B) Regional plant genome and gene expression research centers to conduct research and dissemination activities that may include—

(i) basic plant genomics research and genomics applications, including those related to cultivation of crops in extreme environments

and to cultivation of crops with reduced reliance on fertilizer, herbicides, and pesticides;

(ii) basic research that will contribute to the development or use of innovative plant-derived products;

(iii) basic research on alternative uses for plants and plant materials, including the use of plants as renewable feedstock for alternative energy production and nonpetroleum-based industrial chemicals and precursors; and

(iv) basic research and dissemination of information on the ecological and other consequences of genetically engineered plants.

Competitive, merit-based awards for centers under this subparagraph shall be to consortia of institutions of higher education or nonprofit organizations. The Director shall, to the extent practicable, ensure that research centers established under this subparagraph collectively examine as many different agricultural environments as possible, enhance the excellence of existing Foundation programs, and focus on plants of economic importance.

(C) Research partnerships to focus on—

(i) basic genomic research on crops grown in the developing world;

(ii) basic plant genome research that will advance and expedite the development of improved cultivars, including those that are pest-resistant, produce increased yield, reduce the need for fertilizers, herbicides, or pesticides, or have increased tolerance to stress;

(iii) basic research that could lead to the development of technologies to produce pharmaceutical compounds such as vaccines and medications in plants that can be grown in the developing world; and

(iv) research on the impact of plant biotechnology on the social, political, economic, health, and environmental conditions in countries in the developing world.

Competitive, merit-based awards for partnerships under this subparagraph shall be to institutions of higher education, nonprofit organizations, or consortia of such entities that enter into a partnership that shall include one or more research institutions in one or more developing nations, and that may also include for-profit companies involved in plant biotechnology. The Director, by means of outreach, shall encourage inclusion of historically Black colleges and universities, Hispanic-serving institutions,

tribally controlled colleges and universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions in consortia that enter into such partnerships.

(4) INNOVATION PARTNERSHIPS.—An innovation partnerships program to support competitive, merit-reviewed proposals that seek to stimulate innovation at the regional level through new partnerships involving States, regional governmental entities, local governmental entities, industry, academic institutions, and other related organizations in strategically important fields of science and technology.

(5) MATHEMATICS AND SCIENCE EDUCATION PARTNERSHIPS.—The mathematics and science education partnerships program described in section 9.

(6) ROBERT NOYCE SCHOLARSHIP PROGRAM.—The Robert Noyce Scholarship Program described in section 10.

(7) SCIENCE, MATHEMATICS, ENGINEERING, AND TECHNOLOGY TALENT EXPANSION PROGRAM.—(A) A program of competitive, merit-based, multi-year grants for eligible applicants to increase the number of students studying toward and completing associate's or bachelor's degrees in science, mathematics, engineering, and technology, particularly in

fields that have faced declining enrollment in recent years.

(B) In selecting projects under this paragraph, the Director shall strive to increase the number of students studying toward and completing baccalaureate degrees, concentrations, or certificates in science, mathematics, engineering, or technology who are individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

(C) The types of projects the Foundation may support under this paragraph include those that promote high quality—

(i) interdisciplinary teaching;

(ii) undergraduate-conducted research;

(iii) mentor relationships for students;

(iv) bridge programs that enable students at community colleges to matriculate directly into baccalaureate science, mathematics, engineering, or technology programs;

(v) internships carried out in partnership with industry; and

(vi) innovative uses of digital technologies, particularly at institutions of higher education

that serve high numbers or percentages of economically disadvantaged students.

(D)(i) In order to receive a grant under this paragraph, an eligible applicant shall establish targets to increase the number of students studying toward and completing associate's or bachelor's degrees in science, mathematics, engineering, or technology.

(ii) A grant under this paragraph shall be awarded for a period of 5 years, with the final 2 years of funding contingent on the Director's determination that satisfactory progress has been made by the grantee toward meeting the targets established under clause (i).

(iii) In the case of community colleges, a student who transfers to a baccalaureate program, or receives a certificate under an established certificate program, in science, mathematics, engineering, or technology shall be counted toward meeting a target established under clause (i).

(E) For each grant awarded under this paragraph to an institution of higher education, at least 1 principal investigator shall be in a position of administrative leadership at the institution of higher education, and at least 1 principal investigator shall

be a faculty member from an academic department included in the work of the project. For each grant awarded to a consortium or partnership, at each institution of higher education participating in the consortium or partnership, at least 1 of the individuals responsible for carrying out activities authorized under this paragraph at that institution shall be in a position of administrative leadership at the institution, and at least 1 shall be a faculty member from an academic department included in the work of the project at that institution.

(F) In this paragraph, the term ''eligible applicant'' means—

(i) an institution of higher education;

(ii) a consortium of institutions of higher education; or

(iii) a partnership between—

(I) an institution of higher education or a consortium of such institutions; and

(II) a nonprofit organization, a State or local government, or a private company, with demonstrated experience and effectiveness in science, mathematics, engineering, or technology education.

(8) SECONDARY SCHOOL SYSTEMIC INITIATIVE.—A program of competitive, merit-based grants for State educational agencies or local educational agencies that supports the planning and implementation of agency-wide secondary school reform initiatives designed to promote scientific and technological literacy, meet the mathematics and science education needs of students at risk of not achieving State student academic achievement standards, reduce the need for basic skill training by employers, and heighten college completion rates through activities, such as—

(A) systemic alignment of secondary school curricula and higher education freshman placement requirements;

(B) development of materials and curricula that support small, theme-oriented schools and learning communities;

(C) implementation of enriched mathematics and science curricula for all secondary school students;

(D) strengthened teacher training in mathematics, science, and reading as it relates to technical and specialized texts;

(E) laboratory improvement and provision of instrumentation as part of a comprehensive program to enhance the quality of mathematics, science, engineering, and technology instruction; or

(F) other secondary school systemic initiatives that enable grantees to leverage private sector funding for mathematics, science, engineering, and technology scholarships.

In awarding grants under this paragraph, the Director shall give priority to agencies that serve high poverty communities.

(9) EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH.—The Experimental Program to Stimulate Competitive Research, established under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g), that is designed to enhance—

(A) research in mathematics, science, and engineering throughout the States eligible to participate in the program and the Commonwealth of Puerto Rico;

(B) research infrastructure in the States eligible to participate in the program and the Commonwealth of Puerto Rico; and

(C) the geographic distribution of Federal research and development support.

(10) THE SCIENCE AND ENGINEERING EQUAL OPPORTUNITIES ACT.—A comprehensive program designed to advance the goals of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885 et seq.), including programs to—

(A) provide support to minority-serving institutions; and

(B) ensure that reports required under sections 36 and 37 of such Act are submitted to the—

(i) Committee on Science of the House of Representatives;

(ii) Committee on Health, Education, Labor, and Pensions of the Senate; and

(iii) Committee on Commerce, Science, and Transportation of the Senate.

(11) ASTRONOMICAL RESEARCH AND INSTRUMENTATION.—An astronomical research program to support competitive, merit-reviewed proposals that—

(A) will advance understanding of—

(i) the origins and characteristics of planets, the Sun, other stars, the Milky Way Galaxy, and extragalactic objects

(such as clusters of galaxies and quasars); and

(ii) the structure and origin of the universe; and

(B) support related activities such as developing advanced technologies and instrumentation, funding undergraduate and graduate students, and satisfying other instrumentation and research needs.

SEC. 9. MATHEMATICS AND SCIENCE EDUCATION PARTNERSHIPS.

(a) PROGRAM AUTHORIZED.—

(1) IN GENERAL.—(A) The Director shall carry out a program to award grants to institutions of higher education or eligible nonprofit organizations (or consortia of such institutions or organizations) to establish mathematics and science education partnership programs to improve elementary and secondary mathematics and science instruction.

(B) Grants shall be awarded under this subsection on a competitive, merit-reviewed basis.

(2) PARTNERSHIPS.—(A) In order to be eligible to receive a grant under this subsection, an institution of higher education or eligible nonprofit organization (or consortium of such institutions or organi-

zations) shall enter into a partnership with one or more local educational agencies that may also include a State educational agency or one or more businesses.

(B) A participating institution of higher education shall include mathematics, science, or engineering departments in the programs carried out through a partnership under this paragraph.

(3) USES OF FUNDS.—Grants awarded under this subsection shall be used for activities that draw upon the expertise of the partners to improve elementary or secondary education in mathematics or science and that are consistent with State mathematics and science student academic achievement standards, including—

(A) recruiting and preparing students for careers in elementary or secondary mathematics or science education;

(B) offering professional development programs, including summer or academic year institutes or workshops, designed to strengthen the capabilities of mathematics and science teachers;

(C) offering innovative preservice and inservice programs that instruct teachers on

using technology more effectively in teaching mathematics and science, including programs that recruit and train undergraduate and graduate students to provide technical support to teachers;

(D) developing distance learning programs for teachers or students, including developing courses, curricular materials, and other resources for the in-service professional development of teachers that are made available to teachers through the Internet;

(E) developing a cadre of master teachers who will promote reform and improvement in schools;

(F) offering teacher preparation and certification programs for professional mathematicians, scientists, and engineers who wish to begin a career in teaching;

(G) developing tools to evaluate activities conducted under this subsection;

(H) developing or adapting elementary school and secondary school mathematics and science curricular materials that incorporate contemporary research on the science of learning;

(I) developing initiatives to increase and sustain the number, quality, and diversity of prekindergarten through grade 12 teachers of mathematics and science, especially in underserved areas;

(J) using mathematicians, scientists, and engineers employed by private businesses to help recruit and train mathematics and science teachers;

(K) developing and offering mathematics or science enrichment programs for students, including after-school and summer programs;

(L) providing research opportunities in business or academia for students and teachers;

(M) bringing mathematicians, scientists, and engineers from business and academia into elementary school and secondary school classrooms; and

(N) any other activities the Director determines will accomplish the goals of this subsection.

(4) MASTER TEACHERS.—Activities carried out in accordance with paragraph (3)(E) shall—

(A) emphasize the training of master teachers who will improve the instruction of

mathematics or science in kindergarten through grade 12;

(B) include training in both content and pedagogy; and

(C) provide training only to teachers who will be granted sufficient nonclassroom time to serve as master teachers, as demonstrated by assurances their employing school has provided to the Director, in such time and such manner as the Director may require.

(5) SCIENCE ENRICHMENT PROGRAMS FOR GIRLS.—Activities carried out in accordance with paragraph (3)(K) and (L) shall include elementary school and secondary school programs to encourage the ongoing interest of girls in science, mathematics, engineering, and technology and to prepare girls to pursue undergraduate and graduate degrees and careers in science, mathematics, engineering, or technology. Funds made available through awards to partnerships for the purposes of this paragraph may support programs for—

(A) encouraging girls to pursue studies in science, mathematics, engineering, and technology and to major in such fields in postsecondary education;

(B) tutoring girls in science, mathematics, engineering, and technology;

(C) providing mentors for girls in person and through the Internet to support such girls in pursuing studies in science, mathematics, engineering, and technology;

(D) educating the parents of girls about the difficulties faced by girls to maintain an interest and desire to achieve in science, mathematics, engineering, and technology, and enlisting the help of parents in overcoming these difficulties; and

(E) acquainting girls with careers in science, mathematics, engineering, and technology and encouraging girls to plan for careers in such fields.

(6) RESEARCH IN SECONDARY SCHOOLS.—Activities carried out in accordance with paragraph (3)(K) may include support for research projects performed by students at secondary schools. Uses of funds made available through awards to partnerships for purposes of this paragraph may include—

(A) training secondary school mathematics and science teachers in the design of research projects for students;

(B) establishing a system for students and teachers involved in research projects funded under this subsection to exchange information about their projects and research results; and

(C) assessing the educational value of the student research projects by such means as tracking the academic performance and choice of academic majors of students conducting research.

(7) STIPENDS.—Grants awarded under this subsection may be used to provide stipends for teachers or students participating in training or research activities that would not be part of their typical classroom activities.

(b) SELECTION PROCESS.—

(1) APPLICATION.—An institution of higher education or an eligible nonprofit organization (or a consortium of such institutions or organizations) seeking funding under subsection (a) shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the partnership and the role that each member will play in implementing the proposal;

(B) a description of each of the activities to be carried out, including—

(i) how such activities will be aligned with State mathematics and science student academic achievement standards and with other activities that promote student achievement in mathematics and science;

(ii) how such activities will be based on a review of relevant research;

(iii) why such activities are expected to improve student performance and strengthen the quality of mathematics and science instruction; and

(iv) any activities that will encourage the interest of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b) in mathematics, science, engineering, and technology and will help prepare such individuals to pursue postsecondary studies in these fields;

(C) a description of the number, size, and nature of any stipends that will be provided to students or teachers and the reasons such stipends are needed;

(D) a description of how the partnership will serve as a catalyst for reform of mathematics and science education programs;

(E) a description of how the partnership will assess its success;

(F) a description of how the partnership will collaborate with the State educational agency to ensure that successful partnership activities may be replicated throughout the State; and

(G) a description of the manner in which the partnership will be continued after assistance under this section ends.

(2) REVIEW OF APPLICATIONS.—In evaluating the applications submitted under paragraph (1), the Director shall consider, at a minimum—

(A) the ability of the partnership to carry out effectively the proposed programs;

(B) the extent to which the members of the partnership are committed to making the partnership a central organizational focus;

(C) the degree to which activities carried out by the partnership are based on relevant research and are likely to result in increased student achievement;

(D) the degree to which such activities are aligned with State mathematics and science student academic achievement standards;

(E) the likelihood that the partnership will demonstrate activities that can be widely implemented as part of larger scale reform efforts; and

(F) the extent to which the activities will encourage the interest of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b) in mathematics, science, engineering, and technology and will help prepare such individuals to pursue postsecondary studies in these fields.

(3) AWARDS.—In awarding grants under this section, the Director shall—

(A) give priority to applications in which the partnership includes a high-need local educational agency or a high-need local educational agency in which at least one school does not

make adequate yearly progress, as determined pursuant to part A of title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311 et seq.); and

(B) ensure that, to the extent practicable, a substantial number of the partnerships funded under this section include businesses.

(c) ACCOUNTABILITY AND DISSEMINATION.—

(1) ASSESSMENT REQUIRED.—The Director shall evaluate the program established under subsection (a). At a minimum, such evaluation shall—

(A) use a common set of benchmarks and assessment tools to identify best practices and materials developed and demonstrated by the partnerships; and

(B) to the extent practicable, compare the effectiveness of practices and materials developed and demonstrated by the partnerships authorized under this section with those of partnerships funded by other State or Federal agencies.

(2) DISSEMINATION OF RESULTS.—(A) The results of the evaluation required under paragraph (1) shall be made available to the public and shall be provided to the Committee on Science of the House

of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate.

(B) Materials developed under the program established under subsection (a) that are demonstrated to be effective shall be made widely available to the public.

(3) ANNUAL MEETING.—The Director, in consultation with the Secretary of Education, shall convene an annual meeting of the partnerships participating under this section to foster greater national collaboration.

(4) REPORT ON COORDINATION.—The Director, in consultation with the Secretary of Education, shall provide an annual report to the Committee on Science of the House of Representatives, the Committee on Education and the Workforce of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate describing how the program authorized under this section has been and will be coordinated with the program authorized under part B of title II of the Elementary and Secondary

Education Act of 1965 (20 U.S.C. 6601 et seq.). The report under this paragraph shall be submitted along with the President's annual budget request.

(5) TECHNICAL ASSISTANCE.—At the request of an eligible partnership or a State educational agency, the Director shall provide the partnership or agency with technical assistance in meeting any requirements of this section, including providing advice from experts on how to develop—

(A) a quality application for a grant; and

(B) quality activities from funds received from a grant under this section.

SEC. 10. ROBERT NOYCE SCHOLARSHIP PROGRAM.

(a) SCHOLARSHIP PROGRAM.—

(1) IN GENERAL.—The Director shall carry out a program to award grants to institutions of higher education (or consortia of such institutions) to provide scholarships, stipends, and programming designed to recruit and train mathematics and science teachers. Such program shall be known as the ''Robert Noyce Scholarship Program''.

(2) MERIT REVIEW.—Grants shall be provided under this subsection on a competitive, merit-reviewed basis.

(3) USE OF GRANTS.—Grants provided under this section shall be used by institutions of higher education or consortia—

(A) to develop and implement a program to encourage top college juniors and seniors majoring in mathematics, science, and engineering at the grantee's institution to become mathematics and science teachers, through—

(i) administering scholarships in accordance with subsection (c);

(ii) offering programs to help scholarship recipients to teach in elementary schools and secondary schools, including programs that will result in teacher certification or licensing; and

(iii) offering programs to scholarship recipients, both before and after they receive their baccalaureate degree, to enable the recipients to become better mathematics and science teachers, to fulfill the service requirements of this section, and to exchange ideas with others in their fields; or

(B) to develop and implement a program to encourage science, mathematics, or engineer-

ing professionals to become mathematics and science teachers, through—

(i) administering stipends in accordance with subsection (d);

(ii) offering programs to help stipend recipients obtain teacher certification or licensing; and

(iii) offering programs to stipend recipients, both during and after matriculation in the program for which the stipend is received, to enable recipients to become better mathematics and science teachers, to fulfill the service requirements of this section, and to exchange ideas with others in their fields.

(b) SELECTION PROCESS.—

(1) APPLICATION.—An institution of higher education or consortium seeking funding under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the scholarship or stipend program that the applicant intends to operate, including the number of scholarships or

the size and number of stipends the applicant intends to award, and the selection process that will be used in awarding the scholarships or stipends;

(B) evidence that the applicant has the capability to administer the scholarship or stipend program in accordance with the provisions of this section; and

(C) a description of the programming that will be offered to scholarship or stipend recipients during and after their matriculation in the program for which the scholarship or stipend is received.

(2) REVIEW OF APPLICATIONS.—In evaluating the applications submitted under paragraph (1), the Director shall consider, at a minimum—

(A) the ability of the applicant to effectively carry out the program;

(B) the extent to which the applicant is committed to making the program a central organizational focus;

(C) the degree to which the proposed programming will enable scholarship or stipend recipients to become successful mathematics and science teachers;

(D) the number and quality of the students that will be served by the program; and

(E) the ability of the applicant to recruit students who would otherwise not pursue a career in teaching.

(c) SCHOLARSHIP REQUIREMENTS.—

(1) IN GENERAL.—Scholarships under this section shall be available only to students who are—

(A) majoring in science, mathematics, or engineering; and

(B) in the last 2 years of a baccalaureate degree program.

(2) SELECTION.—Individuals shall be selected to receive scholarships primarily on the basis of academic merit, with consideration given to financial need and to the goal of promoting the participation of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

(3) AMOUNT.—The Director shall establish for each year the amount to be awarded for scholarships under this section for that year, which shall be not less than $7,500 per year, except that no individual shall receive for any year more than the cost of attendance at that individual's institution. Individuals

may receive a maximum of 2 years of scholarship support.

(4) SERVICE OBLIGATION.—If an individual receives a scholarship, that individual shall be required to complete, within 6 years after graduation from the baccalaureate degree program for which the scholarship was awarded, 2 years of service as a mathematics or science teacher for each year a scholarship was received. Service required under this paragraph shall be performed in a high-need local educational agency.

(d) STIPENDS.—

(1) IN GENERAL.—Stipends under this section shall be available only to mathematics, science, and engineering professionals who, while receiving the stipend, are enrolled in a program to receive certification or licensing to teach.

(2) SELECTION.—Individuals shall be selected to receive stipends under this section primarily on the basis of academic merit, with consideration given to financial need and to the goal of promoting the participation of individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

(3) DURATION.—Individuals may receive a maximum of 1 year of stipend support.

(4) SERVICE OBLIGATION.—If an individual receives a stipend under this section, that individual shall be required to complete, within 6 years after graduation from the program for which the stipend was awarded, 2 years of service as a mathematics or science teacher for each year a stipend was received. Service required under this paragraph shall be performed in a high-need local educational agency.

(e) CONDITIONS OF SUPPORT.—As a condition of acceptance of a scholarship or stipend under this section, a recipient shall enter into an agreement with the institution of higher education—

(1) accepting the terms of the scholarship or stipend pursuant to subsections (c) and (g), or subsection (d);

(2) agreeing to provide the awarding institution of higher education with annual certification of employment and up-to-date contact information and to participate in surveys provided by the institution of higher education as part of an ongoing assessment program; and

(3) establishing that any scholarship recipient shall be liable to the United States for any amount

that is required to be repaid in accordance with the provisions of subsection (g).

(f) COLLECTION FOR NONCOMPLIANCE.—

(1) MONITORING COMPLIANCE.—An institution of higher education (or consortium thereof) receiving a grant under this section shall, as a condition of participating in the program, enter into an agreement with the Director to monitor the compliance of scholarship and stipend recipients with their respective service requirements.

(2) COLLECTION OF REPAYMENT.—(A) In the event that a scholarship recipient is required to repay the scholarship under subsection (g), the institution shall be responsible for collecting the repayment amounts.

(B) Except as provided in subparagraph (C), any such repayment shall be returned to the Treasury of the United States.

(C) A grantee may retain a percentage of any repayment it collects to defray administrative costs associated with the collection. The Director shall establish a single, fixed percentage that will apply to all grantees.

(g) FAILURE TO COMPLETE SERVICE OBLIGATION.—

(1) GENERAL RULE.—If an individual who has received a scholarship under this section—

(A) fails to maintain an acceptable level of academic standing in the educational institution in which the individual is enrolled, as determined by the Director;

(B) is dismissed from such educational institution for disciplinary reasons;

(C) withdraws from the baccalaureate degree program for which the award was made before the completion of such program;

(D) declares that the individual does not intend to fulfill the service obligation under this section; or

(E) fails to fulfill the service obligation of the individual under this section,

such individual shall be liable to the United States as provided in paragraph (2).

(2) AMOUNT OF REPAYMENT.—(A) If a circumstance described in paragraph (1) occurs before the completion of one year of a service obligation under this section, the United States shall be entitled to recover from the individual, within one year after the date of the occurrence of such circumstance, an amount equal to—

(i) the total amount of awards received by such individual under this section; plus

(ii) the interest on the amounts of such awards which would be payable if at the time the awards were received they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States,

multiplied by 2.

(B) If a circumstance described in paragraph (1)(D) or (E) occurs after the completion of one year of a service obligation under this section, the United States shall be entitled to recover from the individual, within one year after the date of the occurrence of such circumstance, an amount equal to the total amount of awards received by such individual under this section minus ½ of the amount of the award received per year for each full year of service completed, plus the interest on such amounts which would be payable if at the time the amounts were received they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States.

(3) EXCEPTIONS.—The Director may provide for the partial or total waiver or suspension of any

service or payment obligation by an individual under this section whenever compliance by the individual with the obligation is impossible or would involve extreme hardship to the individual, or if enforcement of such obligation with respect to the individual would be unconscionable.

(h) DATA COLLECTION.—Institutions or consortia receiving grants under this section shall supply to the Director any relevant statistical and demographic data on scholarship recipients and stipend recipients the Director may request, including information on employment required by subsection (e).

(i) DEFINITIONS.—In this section—

(1) the term ''cost of attendance'' has the meaning given such term in section 472 of the Higher Education Act of 1965 (20 U.S.C. 1087ll);

(2) the term ''mathematics and science teacher'' means a mathematics, science, or technology teacher at the elementary school or secondary school level;

(3) the term ''mathematics, science, or engineering professional'' means a person who holds a baccalaureate, masters, or doctoral degree in science, mathematics, or engineering and is working in that field or a related area;

(4) the term ''scholarship'' means an award under subsection (c); and

(5) the term ''stipend'' means an award under subsection (d).

SEC. 11. ESTABLISHMENT OF CENTERS FOR RESEARCH ON MATHEMATICS AND SCIENCE LEARNING AND EDUCATION IMPROVEMENT.

(a) ESTABLISHMENT.—

(1) IN GENERAL.—(A) The Director shall award grants to institutions of higher education (or consortia thereof) to establish multidisciplinary Centers for Research on Learning and Education Improvement.

(B) Grants shall be awarded under this paragraph on a competitive, merit-reviewed basis.

(2) PURPOSE.—The purpose of the Centers shall be to conduct and evaluate research in cognitive science, education, and related fields and to develop ways in which the results of such research can be applied in elementary school and secondary school classrooms to improve the teaching of mathematics and science.

(3) FOCUS.—(A) Each Center shall be focused on a different challenge faced by elementary school or secondary school teachers of mathematics and

science. In determining the research focus of the Centers, the Director shall consult with the National Academy of Sciences and the Secretary of Education and take into account the extent to which other Federal programs support research on similar questions.

(B) The proposal solicitation issued by the Director shall state the focus of each Center and applicants shall apply for designation as a specific Center.

(C) At least one Center shall focus on developing ways in which the results of research described in paragraph (2) can be applied, duplicated, and scaled up for use in low-performing elementary schools and secondary schools to improve the teaching and student achievement levels in mathematics and science.

(D) To the extent practicable and relevant to its focus, every Center shall include, as part of its research, work designed to quantitatively assess and improve the ways that information technology is used in the teaching of mathematics and science.

(b) SELECTION PROCESS.—

(1) APPLICATION.—An institution of higher education (or a consortium of such institutions) seeking funding under this section shall submit an

application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum, a description of—

(A) the initial research projects that will be undertaken by the Center and the process by which new projects will be identified;

(B) how the Center will work with other research institutions and schools to broaden the national research agenda on learning and teaching;

(C) how the Center will promote active collaboration among physical, biological, and social science researchers;

(D) how the Center will promote active participation by elementary and secondary mathematics and science teachers and administrators; and

(E) how the results of the Center's research can be incorporated into educational practices, and how the Center will assess the success of those practices.

(2) REVIEW OF APPLICATIONS.—In evaluating the applications submitted under paragraph (1), the Director shall consider, at a minimum—

(A) the ability of the applicant to effectively carry out the research program, including the activities described in paragraph (1)(E);

(B) the experience of the applicant in conducting research on the science of teaching and learning and the capacity of the applicant to foster new multidisciplinary collaborations;

(C) the capacity of the applicant to attract elementary school and secondary school teachers from a diverse array of schools, and with diverse professional experiences, for participation in Center activities; and

(D) the capacity of the applicant to attract and provide adequate support for graduate students to pursue research at the intersection of educational practice and basic research on human cognition and learning.

(3) AWARDS.—The Director shall ensure, to the extent practicable, that the Centers funded under this section conduct research and develop educational practices designed to improve the educational performance of a broad range of students, including individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

(c) ANNUAL CONFERENCE.—The Director shall convene an annual meeting of the Centers to foster collaboration among the Centers and to further disseminate the results of the Centers' activities.

(d) COORDINATION.—The Director shall coordinate with the Secretary of Education in—

(1) disseminating the results of the research conducted pursuant to grants awarded under this section to elementary school teachers and secondary school teachers; and

(2) providing programming, guidance, and support to ensure that such teachers—

(A) understand the implications of the research disseminated under paragraph (1) for classroom practice; and

(B) can use the research to improve such teachers' performance in the classroom.

SEC. 12. DUPLICATION OF PROGRAMS.

(a) IN GENERAL.—The Director shall review the education programs of the Foundation that are in operation as of the date of enactment of this Act to determine whether any of such programs duplicate the programs authorized under this Act.

(b) IMPLEMENTATION.—As programs authorized under this Act are implemented, the Director shall—

(1) terminate any duplicative program being carried out by the Foundation or merge the duplicative program into a program authorized under this Act; and

(2) not establish any new program that duplicates a program that has been implemented pursuant to this Act.

(c) REPORT.—

(1) REVIEW.—The Director of the Office of Science and Technology Policy shall review the education programs of the Foundation to ensure compliance with the provisions of this section.

(2) SUBMISSION.—Not later than 1 year after the date of enactment of this Act, and annually thereafter as part of the annual Office of Science and Technology Policy's budget submission to Congress, the Director of the Office of Science and Technology Policy shall complete a report on the review carried out under this subsection and shall submit the report to the Committee on Science and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate.

SEC. 13. MAJOR RESEARCH INSTRUMENTATION.

(a) REVIEW AND ASSESSMENT.—The Director shall conduct a review and assessment of the major research instrumentation program and, not later than 1 year after the date of enactment of this Act, submit a report of findings and recommendations to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate. The report shall include—

(1) estimates of the needs, by major field of science and engineering and by types of institutions of higher education, for the types of research instrumentation that are eligible for acquisition under the guidelines of the major research instrumentation program;

(2) a description of the distribution of awards and funding levels by year, by major field of science and engineering, and by type of institution of higher education for the program, since the inception of the major research instrumentation program; and

(3) an analysis of the impact of the major research instrumentation program on the research instrumentation needs that were documented in the Foundation's 1994 survey of academic research instrumentation needs.

(b) NATIONAL ACADEMY OF SCIENCES ASSESSMENT ON INTERDISCIPLINARY RESEARCH AND ADVANCED INSTRUMENTATION CENTERS.—

(1) ASSESSMENT.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an arrangement with the National Academy of Sciences to assess the need for an interagency program to establish and support fully equipped, state-of-the-art university-based centers for interdisciplinary research and advanced instrumentation development.

(2) TRANSMITTAL TO CONGRESS.—Not later than 15 months after the date of the enactment of this Act, the Director shall transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate the assessment conducted by the National Academy of Sciences together with the Foundation's reaction to the assessment authorized under paragraph (1).

SEC. 14. MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION PLAN.

(a) PRIORITIZATION OF PROPOSED MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION.—

(1) DEVELOPMENT OF PRIORITIES.—(A) The Director shall—

(i) develop a list indicating by number the relative priority for funding under the major research equipment and facilities construction account that the Director assigns to each project the Board has approved for inclusion in a future budget request; and

(ii) submit the list described in clause (i) to the Board for approval.

(B) The Director shall update the list prepared under subparagraph (A) each time the Board approves a new project that would receive funding under the major research equipment and facilities construction account, as necessary to prepare reports under paragraph (2), and, from time to time, submit any updated list to the Board for approval.

(2) ANNUAL REPORT.—Not later than 90 days after the date of enactment of this Act, and not later than each June 15 thereafter, the Director shall transmit to the Committee on Science of the House of Representatives, the Committee on Com-

merce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report containing—

(A) the most recent Board-approved priority list developed under paragraph (1)(A);

(B) a description of the criteria used to develop such list; and

(C) a description of the major factors for each project that determined the ranking of such project on the list, based on the application of the criteria described pursuant to subparagraph (B).

(3) CRITERIA.—The criteria described pursuant to paragraph (2)(B) shall include, at a minimum—

(A) scientific merit;

(B) broad societal need and probable impact;

(C) consideration of the results of formal prioritization efforts by the scientific community;

(D) readiness of plans for construction and operation;

(E) the applicant's management and administrative capacity of large research facilities;

(F) international and interagency commitments; and

(G) the order in which projects were approved by the Board for inclusion in a future budget request.

(b) FACILITIES PLAN.—

(1) IN GENERAL.—Section 201(a)(1) of the National Science Foundation Authorization Act of 1998 (42 U.S.C. 1862*l*(a)(1)) is amended to read as follows:

''(1) IN GENERAL.—The Director shall prepare, and include as part of the Foundation's annual budget request to Congress, a plan for the proposed construction of, and repair and upgrades to, national research facilities, including full life-cycle cost information.''.

(2) CONTENTS OF PLAN.—Section 201(a)(2) of the National Science Foundation Authorization Act of 1998 (42 U.S.C. 1862*l*(a)(2)) is amended—

(A) in subparagraph (A), by striking ''(1);'' and inserting ''(1), including costs for instrumentation development;'';

(B) in subparagraph (B), by striking ''and'' after the semicolon;

(C) in subparagraph (C), by striking ''construction.'' and inserting ''construction;''; and

(D) by adding at the end the following:

''(D) for each project funded under the major research equipment and facilities construction account—

''(i) estimates of the total project cost (from planning to commissioning); and

''(ii) the source of funds, including Federal funding identified by appropriations category and non-Federal funding;

''(E) estimates of the full life-cycle cost of each national research facility;

''(F) information on any plans to retire national research facilities; and

''(G) estimates of funding levels for grants supporting research that will be conducted using each national research facility.''.

(3) DEFINITION.—Section 2 of the National Science Foundation Authorization Act of 1998 (42 U.S.C. 1862k note) is amended—

(A) by redesignating paragraphs (3) through (5) as paragraphs (4) through (6), respectively; and

(B) by inserting after paragraph (2) the following:

''(3) FULL LIFE-CYCLE COST.—The term 'full life-cycle cost' means all costs of planning, development, procurement, construction, operations and support, and shut-down costs, without regard to funding source and without regard to what entity manages the project or facility involved.''.

(c) PROJECT MANAGEMENT.—No national research facility project funded under the major research equipment and facilities construction account shall be managed by an individual whose appointment to the Foundation is temporary.

(d) BOARD APPROVAL OF MAJOR RESEARCH EQUIPMENT AND FACILITIES PROJECTS.—

(1) IN GENERAL.—The Board shall explicitly approve any project to be funded out of the major research equipment and facilities construction account before any funds may be obligated from such account for such project.

(2) REPORT.—Not later than September 15 of each fiscal year, the Board shall report to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Health, Education, Labor, and Pensions of the Senate, and the Com-

mittee on Science of the House of Representatives on the conditions of any delegation of authority under section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863) that relates to funds appropriated for any project in the major research equipment and facilities construction account.

(e) NATIONAL ACADEMY OF SCIENCES STUDY ON MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION.—

(1) STUDY.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an arrangement with the National Academy of Sciences to perform a study on setting priorities for a diverse array of disciplinary and interdisciplinary Foundation-sponsored large research facility projects.

(2) TRANSMITTAL TO CONGRESS.—Not later than 15 months after the date of the enactment of this Act, the Director shall transmit to the Committee on Science and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate, the study conducted by the National

Academy of Sciences together with the Foundation's reaction to the study authorized under paragraph (1).

SEC. 15. ADMINISTRATIVE AMENDMENTS.

(a) BOARD MEETINGS.—

(1) IN GENERAL.—Section 4(e) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(e)) is amended by striking the second and third sentences and inserting ''The Board shall adopt procedures governing the conduct of its meetings, including delivery of notice and a definition of a quorum, which in no case shall be less than one-half plus one of the confirmed members of the Board.''.

(2) OPEN MEETINGS.—The Board and all of its committees, subcommittees, and task forces (and any other entity consisting of members of the Board and reporting to the Board) shall be subject to section 552b of title 5, United States Code.

(3) COMPLIANCE AUDIT.—The Inspector General of the Foundation shall conduct an annual audit of the compliance by the Board with the requirements described in paragraph (2). The audit shall examine the proposed and actual content of closed meetings and determine whether the closure of the

meetings was consistent with section 552b of title 5, United States Code.

(4) REPORT.—Not later than February 15 of each year, the Inspector General of the Foundation shall transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate the audit required under paragraph (3) along with recommendations for corrective actions that need to be taken to achieve fuller compliance with the requirements described in paragraph (2), and recommendations on how to ensure public access to the Board's deliberations.

(b) CONFIDENTIALITY OF CERTAIN INFORMATION.—Section 14(i) of the National Science Foundation Act of 1950 (42 U.S.C. 1873(i)) is amended to read as follows:

''(i)(1)(A) Information supplied to the Foundation or a contractor of the Foundation in survey forms, questionnaires, or similar instruments for purposes of section 3(a)(5) or (6) by an individual, an industrial or commercial organization, or an educational, academic, or other nonprofit institution when the institution has received a pledge of confidentiality from the Foundation, shall not be disclosed to the public unless the information has been

transformed into statistical or abstract formats that do not allow for the identification of the supplier.

''(B) Information that has not been transformed into formats described in subparagraph (A) may be used only for statistical or research purposes.

''(C) The identities of individuals, organizations, and institutions supplying information described in subparagraph (A) may not be disclosed to the public.

''(2) In support of functions authorized by section 3(a)(5) or (6), the Foundation may designate, at its discretion, authorized persons, including employees of Federal, State, or local agencies or instrumentalities (including local educational agencies) and employees of private organizations, to have access, for statistical or research purposes only, to information collected pursuant to section 3(a)(5) or (6) that allows for the identification of the supplier. No such person may—

''(A) publish information collected pursuant to section 3(a)(5) or (6) in such a manner that either an individual, an industrial or commercial organization, or an educational, academic, or other nonprofit institution that has received a pledge of confidentiality from the Foundation can be specifically identified;

''(B) permit anyone other than individuals authorized by the Foundation to examine data that allows for such identification relating to an individual, an industrial or commercial organization, or an academic, educational, or other nonprofit institution that has received a pledge of confidentiality from the Foundation; or

''(C) knowingly and willfully request or obtain any nondisclosable information described in paragraph (1) from the Foundation under false pretenses.

''(3) Violation of this subsection is punishable by a fine of not more than $10,000, imprisonment for not more than 5 years, or both.''.

(c) APPOINTMENT.—Section 4(g) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(g)) is amended by striking the second sentence and inserting ''Such staff shall be appointed by the Chairman and assigned at the direction of the Board.''.

(d) SCHOLARSHIP ELIGIBILITY.—The Director shall not exclude part-time students from eligibility for scholarships under the Computer Science, Engineering, and Mathematics Scholarship program.

SEC. 16. SCIENCE AND ENGINEERING EQUAL OPPORTUNITIES ACT AMENDMENTS.

Section 32 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885) is amended—

(1) in subsection (a), by striking ''backgrounds.'' and inserting ''backgrounds, including persons with disabilities.''; and

(2) in subsection (b)—

(A) by inserting '', including persons with disabilities,'' after ''backgrounds''; and

(B) by striking ''and minorities'' each place the term appears and inserting '', minorities, and persons with disabilities''.

SEC. 17. UNDERGRADUATE EDUCATION REFORM.

(a) IN GENERAL.—The Director shall award grants, on a competitive, merit-reviewed basis, to institutions of higher education to expand previously implemented reforms of undergraduate science, mathematics, engineering, or technology education that have been demonstrated to have been successful in increasing the number and quality of students studying toward and completing associate's or baccalaureate degrees in science, mathematics, engineering, or technology.

(b) USES OF FUNDS.—Activities supported by grants under this section may include—

(1) expansion of successful reform efforts beyond a single course or group of courses to achieve reform within an entire academic unit;

(2) expansion of successful reform efforts beyond a single academic unit to other science, mathematics, engineering, or technology academic units within an institution;

(3) creation of multidisciplinary courses or programs that formalize collaborations for the purpose of improved student instruction and research in science, mathematics, engineering, and technology;

(4) expansion of undergraduate research opportunities beyond a particular laboratory, course, or academic unit to engage multiple academic units in providing multidisciplinary research opportunities for undergraduate students;

(5) expansion of innovative tutoring or mentoring programs proven to enhance student recruitment or persistence to degree completion in science, mathematics, engineering, or technology;

(6) improvement of undergraduate science, mathematics, engineering, and technology education for nonmajors, including education majors; and

(7) implementation of technology-driven reform efforts, including the installation of technology to fa-

cilitate such reform, that directly impact undergraduate science, mathematics, engineering, or technology instruction or research experiences.

(c) SELECTION PROCESS.—

(1) APPLICATIONS.—An institution of higher education seeking a grant under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the proposed reform effort;

(B) a description of the previously implemented reform effort that will serve as the basis for the proposed reform effort and evidence of success of that previous effort, including data on student recruitment, persistence to degree completion, and academic achievement;

(C) evidence of active participation in the proposed project by individuals who were central to the success of the previously implemented reform effort; and

(D) evidence of institutional support for, and commitment to, the proposed reform effort, including a description of existing or planned

institutional policies and practices regarding faculty hiring, promotion, tenure, and teaching assignment that reward faculty contributions to undergraduate education equal to, or greater than, scholarly scientific research.

(2) REVIEW OF APPLICATIONS.—In evaluating applications submitted under paragraph (1), the Director shall consider at a minimum—

(A) the evidence of past success in implementing undergraduate education reform and the likelihood of success in undertaking the proposed expanded effort;

(B) the extent to which the faculty, staff, and administrators of the institution are committed to making the proposed institutional reform a priority of the participating academic unit;

(C) the degree to which the proposed reform will contribute to change in institutional culture and policy such that a greater value is placed on faculty engagement in undergraduate education, as evidenced through promotion and tenure policies; and

(D) the likelihood that the institution will sustain or expand the reform beyond the period of the grant.

(3) GRANT DISTRIBUTION.—The Director shall ensure, to the extent practicable, that grants awarded under this section are made to a variety of types of institutions of higher education.

SEC. 18. REPORTS.

(a) GRANT SIZE AND DURATION.—Not later than 6 months after the date of enactment of this Act, the Director shall transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report describing the impact that increasing the average grant size and duration would have on minority-serving institutions and on institutions located in States where the Foundation's Experimental Program to Stimulate Competitive Research (established under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g)) is carrying out activities.

(b) FACULTY.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an arrangement with the National Academy of Sciences to assess gender differences in the careers of science and

engineering faculty. This study shall build on the Academy's work on gender differences in the carriers of doctoral scientists and engineers and examine issues such as faculty hiring, promotion, tenure, and allocation of resources including laboratory space. Upon completion, the results of this study shall be transmitted to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate.

(c) GRANT FUNDING.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an agreement with an appropriate party to assess gender differences in the distribution of external Federal research and development funding. This study shall examine differences in amounts requested and awarded, by gender, in major Federal external grant programs. Upon completion, the results of this study shall be transmitted to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate.

(d) STUDY OF BROADBAND NETWORK ACCESS FOR SCHOOLS AND LIBRARIES.—

(1) REPORT TO CONGRESS.—The Director shall conduct a study of the issues described in paragraph (3), and not later than 1 year after the date of the enactment of this Act, transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report including recommendations to address those issues. Such report shall be updated annually for 4 additional years.

(2) CONSULTATION.—In preparing the reports under paragraph (1), the Director shall consult with Federal agencies and educational entities as the Director considers appropriate.

(3) ISSUES TO BE ADDRESSED.—The reports shall—

(A) identify the availability of high-speed, large bandwidth capacity access to different demographic groups served by elementary schools, secondary schools, and libraries in the United States;

(B) identify how the provision of high-speed, large bandwidth capacity access to the

Internet to such schools and libraries can be effectively utilized within each school and library;

(C) consider the effect that specific or regional circumstances may have on the ability of such institutions to acquire high-speed, large bandwidth capacity access to achieve universal connectivity as an effective tool in the education process; and

(D) include options and recommendations to address the challenges and issues identified in the reports.

(e) MINORITY-SERVING INSTITUTION FUNDING.—

(1) ANNUAL REPORTING REQUIRED.—The Director shall submit an annual report, along with the President's annual budget request, to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate on the amount of funding awarded by the Foundation to minority-serving institutions, including funding received as members of consortia. The report shall include information on such funding to minority-serving institutions—

(A) expressed as a percentage of funding to all institutions of higher education for each appropriations account within the Foundation's budget; and

(B) for the preceding 10 years.

(2) REPORT ON WAYS TO IMPROVE FUNDING.—Within one year after the date of enactment of this Act, the Director shall submit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report on recommendations on how the Foundation can improve funding to minority-serving institutions.

SEC. 19. EVALUATIONS.

(a) EDUCATION.—

(1) IN GENERAL.—The Director, through the Research, Evaluation and Communication Division of the Education and Human Resources Directorate of the Foundation, shall evaluate the effectiveness of all undergraduate science, mathematics, engineering, or technology education activities supported by the Foundation in increasing the number and quality of students, including individuals identified in section 33 or 34 of the Science and Engineering Equal Op-

portunities Act (42 U.S.C. 1885a or 1885b) studying toward and completing associate's or baccalaureate degrees in science, mathematics, engineering, and technology. In conducting the evaluation, the Director shall consider information on—

(A) the number of students enrolled in undergraduate science, mathematics, engineering, and technology programs;

(B) student academic achievement, including quantifiable measurements of students' mastery of content and skills;

(C) persistence to degree completion, including students who transfer from science, mathematics, engineering, and technology programs to programs in other academic disciplines; and

(D) placement during the first year after degree completion in post-graduate education or career pathways.

(2) ASSESSMENT BENCHMARKS AND TOOLS.—The Director, through the Research, Evaluation and Communication Division of the Education and Human Resources Directorate of the Foundation, shall establish a common set of assessment benchmarks and tools, and shall enable every Foundation-

sponsored project to incorporate the use of these benchmarks and tools in their project-based assessment activities.

(3) REPORTS TO CONGRESS.—Not later than 3 years after the date of the enactment of this Act, and once every 3 years thereafter, the Director shall transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report containing the results of evaluations under paragraph (1).

(b) AWARDS.—Notwithstanding any other provision of this Act, the Director shall annually evaluate a random sample of grants, contracts, or other awards made pursuant to this Act.

(c) DISSEMINATION.—The Director shall—

(1) provide for the dissemination of the results of the evaluations conducted pursuant to this section to the public; and

(2) provide notice to the public that such evaluations are available.

SEC. 20. REPORT BY COMMITTEE ON EQUAL OPPORTUNITIES IN SCIENCE AND ENGINEERING.

As part of the first report required by section 36(e) of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885c(e)) transmitted to Congress after the date of enactment of this Act, the Committee on Equal Opportunities in Science and Engineering shall include—

(1) a summary of its findings over the previous 10 years;

(2) a description of past and present policies and activities of the Foundation to encourage full participation of women, minorities, and persons with disabilities in science, mathematics, and engineering fields, including activities in support of minority-serving institutions; and

(3) an assessment of the trends in participation in Foundation activities, and an assessment of the success of Foundation policies and activities, along with proposals for new strategies or the broadening of existing successful strategies toward facilitating the goals of that Act.

SEC. 21. ADVANCED TECHNOLOGICAL EDUCATION PROGRAM.

(a) CORE SCIENCE AND MATHEMATICS COURSES.—Section 3(a) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(a)) is amended—

(1) by inserting ", and to improve the quality of their core education courses in science and mathematics" after "education in advanced-technology fields";

(2) in paragraph (1) by inserting "and in core science and mathematics courses" after "advanced-technology fields"; and

(3) in paragraph (2) by striking "in advanced-technology fields" and inserting "who provide instruction in science, mathematics, and advanced-technology fields".

(b) ARTICULATION PARTNERSHIPS.—Section 3(c)(1)(B) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(c)(1)(B)) is amended—

(1) by striking "and" at the end of clause (i);

(2) by striking the period at the end of clause (ii) and inserting a semicolon; and

(3) by adding after clause (ii) the following new clauses:

"(iii) provide students with research experiences at bachelor's-degree-granting institutions participating in the partnership, including stipend support for students participating in summer programs; and

''(iv) provide faculty mentors for students participating in activities under clause (iii), including summer salary support for faculty mentors.''.

(c) NATIONAL SCIENCE FOUNDATION REPORT.—Within 6 months after the date of the enactment of this Act, the Director shall transmit a report to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate on—

(1) efforts by the Foundation and awardees under the program carried out under section 3 of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i) to disseminate information about the results of projects;

(2) the effectiveness of national centers of scientific and technical education established under section 3(b) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(b)) in serving as national and regional clearinghouses of information and models for best practices in undergraduate science, mathematics, and technology education; and

(3) efforts to satisfy the requirement of section 3(f)(4) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(f)(4)).

SEC. 22. REPORT ON FOUNDATION BUDGETARY AND PROGRAMMATIC EXPANSION.

The Board shall prepare a report to address and examine the Foundation's budgetary and programmatic growth provided for by this Act. The report shall be submitted to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate within one year after the date of the enactment of this Act and shall include—

(1) recommendations on how the increased funding should be utilized;

(2) an examination of the projected impact that the budgetary increases will have on the Nation's scientific and technological workforce;

(3) a description of new or expanded programs that will enable institutions of higher education to expand their participation in Foundation-funded activities;

(4) an estimate of the national scientific and technological research infrastructure needed to ade-

quately support the Foundation's increased funding and additional programs; and

(5) a description of the impact the budgetary increases provided under this Act will have on the size and duration of grants awarded by the Foundation.

SEC. 23. ASTRONOMY AND ASTROPHYSICS ADVISORY COMMITTEE.

(a) ESTABLISHMENT.—The Foundation and the National Aeronautics and Space Administration shall jointly establish an Astronomy and Astrophysics Advisory Committee (in this section referred to as the ''Advisory Committee'').

(b) DUTIES.—The Advisory Committee shall—

(1) assess, and make recommendations regarding, the coordination of astronomy and astrophysics programs of the Foundation and the National Aeronautics and Space Administration;

(2) assess, and make recommendations regarding, the status of the activities of the Foundation and the National Aeronautics and Space Administration as they relate to the recommendations contained in the National Research Council's 2001 report entitled ''Astronomy and Astrophysics in the New Millennium'', and the recommendations contained in

subsequent National Research Council reports of a similar nature; and

(3) not later than March 15 of each year, transmit a report to the Director, the Administrator of the National Aeronautics and Space Administration, and the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate on the Advisory Committee's findings and recommendations under paragraphs (1) and (2).

(c) MEMBERSHIP.—The Advisory Committee shall consist of 13 members, none of whom shall be a Federal employee, including—

(1) 5 members selected by the Director;

(2) 5 members selected by the Administrator of the National Aeronautics and Space Administration; and

(3) 3 members selected by the Director of the Office of Science and Technology Policy.

(d) SELECTION PROCESS.—Initial selections under subsection (c) shall be made within 3 months after the date of the enactment of this Act. Vacancies shall be filled in the same manner as provided in subsection (c).

(e) CHAIRPERSON.—The Advisory Committee shall select a chairperson from among its members.

(f) COORDINATION.—The Advisory Committee shall coordinate with the advisory bodies of other Federal agencies, such as the Department of Energy, which may engage in related research activities.

(g) COMPENSATION.—The members of the Advisory Committee shall serve without compensation, but shall receive travel expenses, including per diem in lieu of subsistence, in accordance with sections 5702 and 5703 of title 5, United States Code.

(h) MEETINGS.—The Advisory Committee shall convene, in person or by electronic means, at least 4 times a year.

(i) QUORUM.—A majority of the members serving on the Advisory Committee shall constitute a quorum for purposes of conducting the business of the Advisory Committee.

(j) DURATION.—Section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Committee.

SEC. 24. MINORITY-SERVING INSTITUTIONS UNDERGRADUATE PROGRAM.

(a) IN GENERAL.—The Director is authorized to establish a new program to award grants on a competitive, merit-reviewed basis to Hispanic-serving institutions,

Alaska Native-serving institutions, Native Hawaiian-serving institutions, and other institutions of higher education serving a substantial number of minority students to enhance the quality of undergraduate science, mathematics, and engineering education at such institutions and to increase the retention and graduation rates of students pursuing associate's or baccalaureate degrees in science, mathematics, engineering, or technology.

(b) PROGRAM COMPONENTS.—Grants awarded under this section shall support—

(1) activities to improve courses and curriculum in science, mathematics, and engineering;

(2) faculty development;

(3) stipends for undergraduate students participating in research; and

(4) other activities consistent with subsection (a), as determined by the Director.

(c) PROGRAM COORDINATION.—This program shall be coordinated with and in addition to the ongoing Historically Black Colleges and Universities Undergraduate Program and the Tribal Colleges and Universities Program.

(d) INSTRUMENTATION.—Funding for instrumentation is an allowed use of grants awarded under this section and under the ongoing Historically Black Colleges and

Universities Undergraduate Program and the Tribal Colleges and Universities Program.

SEC. 25. STUDY ON RESEARCH AND DEVELOPMENT FUNDING DATA DISCREPANCIES.

(a) STUDY.—The Director, in consultation with the Director of the Office of Management and Budget and the heads of other Federal agencies, shall enter into agreement with the National Academy of Sciences to conduct a comprehensive study to determine the source of discrepancies in Federal reports on obligations and actual expenditures of Federal research and development funding.

(b) CONTENTS.—The study shall—

(1) examine the relevance and accuracy of reporting classifications and definitions used in the reports described in subsection (a);

(2) examine whether the classifications and definitions are used consistently across Federal agencies for data gathering;

(3) examine whether and how Federal agencies use reports described in subsection (a), and describe any other sources of similar data used by those agencies;

(4) recommend alternatives for modifications to the current reporting process and system that would—

(A) accommodate emerging fields of science and changing practices in the conduct of research and development;

(B) minimize, to the extent possible, the burden imposed on the reporters of these data;

(C) increase the consistency of application of the system across the Federal agencies including the Office of Management and Budget and the Foundation;

(D) encourage the use of new technologies to increase accuracy, timeliness, and consistency of the reported data between the agencies and the research performers; and

(E) overcome systemic shortfalls; and

(5) recommend an implementation timeline for the modifications recommended under paragraph (4), and recommend specific responsibilities for the program and budget offices in the agencies, taking into consideration required changes to the current computer systems and processes used by the agencies.

(c) SUBMISSION.—The Director shall submit a report on the results of the study to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the

Committee on Health, Education, Labor, and Pensions of the Senate within one year after the date of enactment of this Act.

(d) IMPLEMENTATION.—Within 6 months after the completion of the study required by subsection (a), the Director of the Office of Science and Technology Policy shall submit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a plan for implementation of the recommendations of the study.

SEC. 26. PLANNING GRANTS.

The Director is authorized to accept planning proposals from applicants who are within .075 percentage points of the current eligibility level for the Experimental Program to Stimulate Competitive Research. Such proposals shall be reviewed by the Foundation to determine their merit for support under the Experimental Program to Stimulate Competitive Research or any other appropriate program.

Amend the title so as to read: ''An Act to authorize appropriations for fiscal years 2003, 2004, 2005, 2006, and 2007 for the National Science Foundation, and for other purposes.''.

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