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109TH CONGRESS
2D SESSION

S. 3936

To invest in innovation and education to improve the competitiveness of the United States in the global economy.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 26, 2006

Mr. FRIST (for himself, Mr. REID, Mr. DOMENICI, Mr. BINGAMAN, Mr. STEVENS, Mr. INOUE, Mr. ENZI, Mr. KENNEDY, Mr. ENSIGN, Mr. LIEBERMAN, Mr. ALEXANDER, Ms. MIKULSKI, Mrs. HUTCHISON, Mr. NELSON of Florida, Mr. BURNS, Mrs. CLINTON, Mr. ALLEN, Ms. CANTWELL, Mr. CORNYN, Mr. KERRY, Mr. TALENT, Mr. SALAZAR, Mr. CRAIG, Ms. LANDRIEU, Mr. ISAKSON, Mr. MENENDEZ, Mr. SMITH, Mr. KOHL, Mr. VOINOVICH, Mr. ROBERTS, Mr. COLEMAN, Mr. JOHNSON, Mr. LUGAR, and Mr. ROCKEFELLER) introduced the following bill; which was read the first time

SEPTEMBER 27, 2006

Read the second time and placed on the calendar

A BILL

To invest in innovation and education to improve the competitiveness of the United States in the global economy.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “National Competitive-
3 ness Investment Act”.

4 **SEC. 2. ORGANIZATION OF ACT INTO DIVISIONS; TABLE OF**
5 **CONTENTS.**

6 (a) DIVISIONS.—This Act is organized into 4 divi-
7 sions as follows:

8 (1) DIVISION A.—Commerce and Science.

9 (2) DIVISION B.—Department of Energy.

10 (3) DIVISION C.—Education.

11 (4) DIVISION D.—National Science Foundation.

12 (b) TABLE OF CONTENTS.—The table of contents for
13 this Act is as follows:

Sec. 1. Short title.

Sec. 2. Organization of Act into divisions; table of contents.

DIVISION A—COMMERCE AND SCIENCE

Sec. 1001. Short title.

TITLE I—OFFICE OF SCIENCE AND TECHNOLOGY POLICY;
GOVERNMENT-WIDE SCIENCE

Sec. 1101. National Science and Technology Summit.

Sec. 1102. Study on barriers to innovation.

Sec. 1103. National Innovation Medal.

Sec. 1104. Release of scientific research results.

Sec. 1105. Semiannual Science, Technology, Engineering, and Mathematics
Days.

Sec. 1106. Study of service science.

TITLE II—INNOVATION PROMOTION

Sec. 1201. President’s Council on Innovation and Competitiveness.

Sec. 1202. Innovation acceleration research.

TITLE III—NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION

Sec. 1301. NASA’s contribution to innovation.

Sec. 1302. Aeronautics Institute for Research.

Sec. 1303. Basic Research enhancement.

- Sec. 1304. Aging workforce issues program.
- Sec. 1305. Conforming amendments.
- Sec. 1306. Fiscal year 2007 basic science and research funding.

TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

- Sec. 1401. Authorization of appropriations.
- Sec. 1402. Amendments to the Stevenson-Wydler Technology Innovation Act of 1980.
- Sec. 1403. Innovation acceleration.
- Sec. 1404. Manufacturing extension.
- Sec. 1405. Experimental Program to Stimulate Competitive Technology.
- Sec. 1406. Technical amendments to the National Institute of Standards and Technology Act and other technical amendments.

TITLE V—OCEAN AND ATMOSPHERIC PROGRAMS

- Sec. 1501. Ocean and atmospheric research and development program.
- Sec. 1502. NOAA ocean and atmospheric science education programs.

DIVISION B—DEPARTMENT OF ENERGY

- Sec. 2001. Short title.
- Sec. 2002. Definitions.
- Sec. 2003. Mathematics, science, and engineering education at the Department of Energy.
- Sec. 2004. Department of Energy early-career research grants.
- Sec. 2005. Advanced Research Projects Authority-Energy.
- Sec. 2006. Authorization of appropriations for the Department of Energy for basic research.
- Sec. 2007. Discovery science and engineering innovation institutes.
- Sec. 2008. Protecting America's Competitive Edge (PACE) graduate fellowship program.
- Sec. 2009. Title IX compliance.
- Sec. 2010. High-risk, high-reward research.
- Sec. 2011. Distinguished scientist program.

DIVISION C—EDUCATION

- Sec. 3001. Findings.
- Sec. 3002. Definitions.

TITLE I—TEACHER ASSISTANCE

Subtitle A—Teachers for a Competitive Tomorrow

- Sec. 3111. Purpose.
- Sec. 3112. Definitions.
- Sec. 3113. Programs for baccalaureate degrees in mathematics, science, engineering, or critical foreign languages, with concurrent teacher certification.
- Sec. 3114. Programs for master's degrees in mathematics, science, or critical foreign languages education.
- Sec. 3115. General provisions.
- Sec. 3116. Authorization of appropriations.

Subtitle B—Advanced Placement and International Baccalaureate Programs

- Sec. 3121. Purpose.
- Sec. 3122. Definitions.
- Sec. 3123. Advanced Placement and International Baccalaureate programs.

TITLE II—MATH NOW

- Sec. 3201. Math Now for elementary school and middle school students program.

TITLE III—FOREIGN LANGUAGE PARTNERSHIP PROGRAM

- Sec. 3301. Findings and purpose.
- Sec. 3302. Definitions.
- Sec. 3303. Program authorized.
- Sec. 3304. Authorization of appropriations.

TITLE IV—ALIGNMENT OF EDUCATION PROGRAMS

- Sec. 3401. Alignment of secondary school graduation requirements with the demands of 21st century postsecondary endeavors and support for P-16 education data systems.

DIVISION D—NATIONAL SCIENCE FOUNDATION

- Sec. 4001. Authorization of appropriations.
- Sec. 4002. Strengthening of education and human resources directorate through equitable distribution of new funds.
- Sec. 4003. Graduate fellowships and graduate traineeships.
- Sec. 4004. Professional science master's degree programs.
- Sec. 4005. Increased support for science education through the National Science Foundation.
- Sec. 4006. Meeting critical national science needs.
- Sec. 4007. Reaffirmation of the merit-review process of the National Science Foundation.
- Sec. 4008. Experimental Program to Stimulate Competitive Research.
- Sec. 4009. Encouraging participation.
- Sec. 4010. Cyberinfrastructure.
- Sec. 4011. Federal information and communications technology research.
- Sec. 4012. Robert Noyce Teacher Scholarship Program.
- Sec. 4013. Sense of the Senate regarding the mathematics and science partnership programs of the Department of Education and the National Science Foundation.
- Sec. 4014. National Science Foundation teacher institutes for the 21st century.

1 **DIVISION A—COMMERCE AND** 2 **SCIENCE**

3 **SEC. 1001. SHORT TITLE.**

4 This division may be cited as the “American Innova-
5 tion and Competitiveness Act of 2006”.

1 **TITLE I—OFFICE OF SCIENCE**
2 **AND TECHNOLOGY POLICY;**
3 **GOVERNMENT-WIDE SCIENCE**

4 **SEC. 1101. NATIONAL SCIENCE AND TECHNOLOGY SUMMIT.**

5 (a) IN GENERAL.—Not later than 180 days after the
6 date of enactment of this Act, the President shall convene
7 a National Science and Technology Summit to examine
8 the health and direction of the United States' science and
9 technology enterprises. The Summit shall include rep-
10 resentatives of industry, small business, labor, academia,
11 State government, Federal research and development
12 agencies, non-profit environmental and energy policy
13 groups concerned with science and technology issues, and
14 other nongovernmental organizations.

15 (b) REPORT.—Not later than 90 days after the date
16 of the conclusion of the Summit, the President shall issue
17 a report on the results of the Summit. The report shall
18 identify key research and technology challenges and rec-
19 ommendations for areas of investment for Federal re-
20 search and technology programs to be carried out during
21 the 5-year period beginning on the date the report is
22 issued.

23 (c) ANNUAL EVALUATION.—Beginning in 2007, the
24 Director of the Office of Science and Technology Policy
25 shall publish and submit to Congress an annual report

1 that contains recommendations for areas of investment for
2 Federal research and technology programs, including a
3 justification for each area identified in the report. Each
4 report submitted during the 5-year period beginning on
5 the date of the conclusion of the Summit shall take into
6 account any recommendations made by the Summit.

7 **SEC. 1102. STUDY ON BARRIERS TO INNOVATION.**

8 (a) IN GENERAL.—Not later than 90 days after the
9 date of enactment of this Act, the Director of the Office
10 of Science and Technology Policy shall enter into a con-
11 tract with the National Academy of Sciences to conduct
12 and complete a study to identify, and to review methods
13 to mitigate, new forms of risk for businesses beyond con-
14 ventional operational and financial risk that affect the
15 ability to innovate, including studying and reviewing—

16 (1) incentive and compensation structures that
17 could effectively encourage long-term value creation
18 and innovation;

19 (2) methods of voluntary and supplemental dis-
20 closure by industry of intellectual capital, innovation
21 performance, and indicators of future valuation;

22 (3) means by which government could work
23 with industry to enhance the legal and regulatory
24 framework to encourage the disclosures described in
25 paragraph (2);

1 (4) practices that may be significant deterrents
2 to United States businesses engaging in innovation
3 risk-taking compared to foreign competitors;

4 (5) costs faced by United States businesses en-
5 gaging in innovation compared to foreign competi-
6 tors, including the burden placed on businesses by
7 high and rising health care costs;

8 (6) means by which industry, trade associa-
9 tions, and universities could collaborate to support
10 research on management practices and methodolo-
11 gies for assessing the value and risks of longer term
12 innovation strategies;

13 (7) means to encourage new, open, and collabo-
14 rative dialogue between industry associations, regu-
15 latory authorities, management, shareholders, labor,
16 and other concerned interests to encourage appro-
17 priate approaches to innovation risk-taking;

18 (8) incentives to encourage participation among
19 institutions of higher education, especially those in
20 rural and underserved areas, to engage in innova-
21 tion;

22 (9) relevant Federal regulations that may dis-
23 courage or encourage innovation;

24 (10) the extent to which Federal funding pro-
25 motes or hinders innovation; and

1 (11) the extent to which individuals are being
 2 equipped with the knowledge and skills necessary for
 3 success in the 21st century workforce, as measured
 4 by—

5 (A) elementary school and secondary
 6 school student academic achievement on the
 7 State academic assessments required under sec-
 8 tion 1111(b)(3) of the Elementary and Sec-
 9 ondary Education Act of 1965, especially in
 10 mathematics, science, and reading;

11 (B) the rate of student entrance into insti-
 12 tutions of higher education by type of institu-
 13 tion, and barriers to access to institutions of
 14 higher education;

15 (C) the rates of—

16 (i) students successfully completing
 17 postsecondary education programs; and

18 (ii) certificates, associate degrees, and
 19 baccalaureate degrees awarded in the fields
 20 of science, technology, engineering, and
 21 mathematics; and

22 (D) access to, and availability of, high
 23 quality job training programs.

24 (b) REPORT REQUIRED.—Not later than 1 year after
 25 entering into the contract required by subsection (a) and

1 4 years after entering into the contract required by sub-
 2 section (a), the National Academy of Sciences shall submit
 3 to Congress a report on the study conducted under such
 4 subsection.

5 (c) AUTHORIZATION OF APPROPRIATIONS.—There
 6 are authorized to be appropriated to the National Acad-
 7 emy of Sciences \$1,000,000 for fiscal year 2007 for the
 8 purpose of carrying out the study required under this sec-
 9 tion.

10 **SEC. 1103. NATIONAL INNOVATION MEDAL.**

11 Section 16 of the Stevenson-Wydler Technology Inno-
 12 vation Act of 1980 (15 U.S.C. 3711) is amended—

13 (1) by striking the section heading and insert-
 14 ing “**SEC. 16. NATIONAL TECHNOLOGY AND IN-**
 15 **NOVATION MEDAL.**”; and

16 (2) in subsection (a), by striking “Technology
 17 Medal” and inserting “Technology and Innovation
 18 Medal”.

19 **SEC. 1104. RELEASE OF SCIENTIFIC RESEARCH RESULTS.**

20 (a) PRINCIPLES.—Not later than 90 days after the
 21 date of enactment of this Act, the Director of the Office
 22 of Science and Technology Policy, in consultation with the
 23 Director of the Office of Management and Budget and the
 24 heads of all Federal civilian agencies that conduct sci-
 25 entific research, shall develop and issue an overarching set

1 of principles to ensure the communication and open ex-
2 change of data and results to other agencies, policy-
3 makers, and the public of research conducted by a sci-
4 entist employed by a Federal civilian agency and to pre-
5 vent the intentional or unintentional suppression or distor-
6 tion of such research findings. The principles shall encour-
7 age the open exchange of data and results of research un-
8 dertaken by a scientist employed by such an agency and
9 shall be consistent with existing Federal laws, including
10 chapter 18 of title 35, United States Code (commonly
11 known as the “Bayh-Dole Act”).

12 (b) IMPLEMENTATION.—Not later than 180 days
13 after the date of enactment of this Act, the Director of
14 the Office of Science and Technology Policy shall ensure
15 that all civilian Federal agencies that conduct scientific
16 research develop specific policies and procedures regarding
17 the public release of data and results of research con-
18 ducted by a scientist employed by such an agency con-
19 sistent with the principles established under subsection
20 (a). Such policies and procedures shall—

21 (1) specifically address what is and what is not
22 permitted or recommended under such policies and
23 procedures;

24 (2) be specifically designed for each such agen-
25 cy;

1 (3) be applied uniformly throughout each such
2 agency; and

3 (4) be widely communicated and readily acces-
4 sible to all employees of each such agency and the
5 public.

6 **SEC. 1105. SEMIANNUAL SCIENCE, TECHNOLOGY, ENGI-**
7 **NEERING, AND MATHEMATICS DAYS.**

8 It is the sense of Congress that the Director of the
9 Office of Science and Technology Policy should—

10 (1) encourage all elementary and middle schools
11 to observe a Science, Technology, Engineering, and
12 Mathematics Day twice in every school year for the
13 purpose of bringing in science, technology, engineer-
14 ing, and mathematics mentors to provide hands-on
15 lessons to excite and inspire students to pursue the
16 science, technology, engineering, and mathematics
17 fields (including continuing education and career
18 paths);

19 (2) initiate a program, in consultation with
20 Federal agencies and departments, to provide sup-
21 port systems, tools (from existing outreach offices),
22 and mechanisms to allow and encourage Federal em-
23 ployees with scientific, technological, engineering, or
24 mathematical responsibilities to reach out to local
25 classrooms on such Science, Technology, Engineer-

1 ing, and Mathematics Days to instruct and inspire
2 school children, focusing on real life science, tech-
3 nology, engineering, and mathematics-related appli-
4 cable experiences along with hands-on demonstra-
5 tions in order to demonstrate the advantages and di-
6 rect applications of studying the science, technology,
7 engineering, and mathematics fields; and

8 (3) promote Science, Technology, Engineering,
9 and Mathematics Days involvement by private sector
10 and institutions of higher education employees in a
11 manner similar to the Federal employee involvement
12 described in paragraph (2).

13 **SEC. 1106. STUDY OF SERVICE SCIENCE.**

14 (a) SENSE OF CONGRESS.—It is the sense of Con-
15 gress that, in order to strengthen the competitiveness of
16 United States enterprises and institutions and to prepare
17 the people of the United States for high-wage, high-skill
18 employment, the Federal Government should better under-
19 stand and respond strategically to the emerging manage-
20 ment and learning discipline known as service science.

21 (b) STUDY.—Not later than 270 days after the date
22 of enactment of this Act, the Director of the Office of
23 Science and Technology Policy, through the National
24 Academy of Sciences, shall conduct a study and report to
25 Congress regarding how the Federal Government should

1 support, through research, education, and training, the
 2 emerging management and learning discipline known as
 3 service science.

4 (c) OUTSIDE RESOURCES.—In conducting the study
 5 under subsection (b), the National Academy of Sciences
 6 shall consult with leaders from 2- and 4-year institutions
 7 of higher education, as defined in section 101(a) of the
 8 Higher Education Act of 1965 (20 U.S.C. 1001(a)), lead-
 9 ers from corporations, and other relevant parties.

10 (d) SERVICE SCIENCE DEFINED.—In this section,
 11 the term “service science” means curricula, training, and
 12 research programs that are designed to teach individuals
 13 to apply scientific, engineering, and management dis-
 14 ciplines that integrate elements of computer science, oper-
 15 ations research, industrial engineering, business strategy,
 16 management sciences, and social and legal sciences, in
 17 order to encourage innovation in how organizations create
 18 value for customers and shareholders that could not be
 19 achieved through such disciplines working in isolation.

20 **TITLE II—INNOVATION** 21 **PROMOTION**

22 **SEC. 1201. PRESIDENT’S COUNCIL ON INNOVATION AND** 23 **COMPETITIVENESS.**

24 (a) IN GENERAL.—The President shall establish a
 25 President’s Council on Innovation and Competitiveness.

1 (b) DUTIES.—The Council’s duties shall include—

2 (1) monitoring implementation of public laws
3 and initiatives for promoting innovation, including
4 policies related to research funding, taxation, immi-
5 gration, trade, and education that are proposed in
6 this Act or in any other Act;

7 (2) providing advice to the President with re-
8 spect to global trends in competitiveness and innova-
9 tion and allocation of Federal resources in edu-
10 cation, job training, and technology research and de-
11 velopment considering such global trends in competi-
12 tiveness and innovation;

13 (3) in consultation with the Director of the Of-
14 fice of Management and Budget, developing a proc-
15 ess for using metrics to assess the impact of existing
16 and proposed policies and rules that affect innova-
17 tion capabilities in the United States;

18 (4) identifying opportunities and making rec-
19 ommendations for the heads of executive agencies to
20 improve innovation, monitoring, and reporting on
21 the implementation of such recommendations;

22 (5) developing metrics for measuring the
23 progress of the Federal Government with respect to
24 improving conditions for innovation, including

1 through talent development, investment, and infra-
 2 structure improvements; and

3 (6) submitting to the President and Congress
 4 an annual report on such progress.

5 (c) MEMBERSHIP AND COORDINATION.—

6 (1) MEMBERSHIP.—The Council shall be com-
 7 posed of the Secretary or head of each of the fol-
 8 lowing:

9 (A) The Department of Commerce.

10 (B) The Department of Defense.

11 (C) The Department of Education.

12 (D) The Department of Energy.

13 (E) The Department of Health and
 14 Human Services.

15 (F) The Department of Homeland Secu-
 16 rity.

17 (G) The Department of Labor.

18 (H) The Department of the Treasury.

19 (I) The National Aeronautics and Space
 20 Administration.

21 (J) The Securities and Exchange Commis-
 22 sion.

23 (K) The National Science Foundation.

24 (L) The Office of the United States Trade
 25 Representative.

1 (M) The Office of Management and Budget
2 et.

3 (N) The Office of Science and Technology
4 Policy.

5 (O) The Environmental Protection Agency.

6 (P) Any other department or agency des-
7 ignated by the President.

8 (2) CHAIRPERSON.—The Secretary of Com-
9 merce shall serve as Chairperson of the Council.

10 (3) COORDINATION.—The Chairperson of the
11 Council shall ensure appropriate coordination be-
12 tween the Council and the National Economic Coun-
13 cil, the National Security Council, and the National
14 Science and Technology Council.

15 (4) MEETINGS.—The Council shall meet on a
16 semi-annual basis at the call of the Chairperson and
17 the initial meeting of the Council shall occur not
18 later than 6 months after the date of enactment of
19 this Act.

20 (d) DEVELOPMENT OF INNOVATION AGENDA.—

21 (1) IN GENERAL.—The Council shall develop a
22 comprehensive agenda for strengthening the innova-
23 tion and competitiveness capabilities of the Federal
24 Government, State governments, academia, and the
25 private sector in the United States.

1 (2) CONTENTS.—The comprehensive agenda re-
2 quired by paragraph (1) shall include the following:

3 (A) An assessment of current strengths
4 and weaknesses of the United States investment
5 in research and development.

6 (B) Recommendations for addressing
7 weaknesses and maintaining the United States
8 as a world leader in research and development
9 and technological innovation.

10 (C) Recommendations for strengthening
11 the innovation and competitiveness capabilities
12 of the Federal government, State governments,
13 academia, and the private sector in the United
14 States.

15 (3) ADVISORS.—

16 (A) RECOMMENDATION.—Not later than
17 30 days after the date of enactment of this Act,
18 the National Academy of Sciences, in consulta-
19 tion with the National Academy of Engineering,
20 the Institute of Medicine, and the National Re-
21 search Council, shall develop and submit to the
22 President a list of 50 individuals that are rec-
23 ommended to serve as advisors to the Council
24 during the development of the comprehensive
25 agenda required by paragraph (1). The list of

advisors shall include appropriate representatives from the following:

(i) The private sector of the economy.

(ii) Labor.

(iii) Various fields including information technology, energy, engineering, high-technology manufacturing, health care, and education.

(iv) Scientific organizations.

(v) Academic organizations and other nongovernmental organizations working in the area of science or technology.

(B) DESIGNATION.—Not later than 30 days after the date that the National Academy of Sciences submits the list of recommended individuals to serve as advisors, the President shall designate 50 individuals to serve as advisors to the Council.

(C) REQUIREMENT TO CONSULT.—The Council shall develop the comprehensive agenda required by paragraph (1) in consultation with the advisors.

(4) INITIAL SUBMISSION AND UPDATES.—

(A) INITIAL SUBMISSION.—Not later than 1 year after the date of enactment of this Act,

1 the Council shall submit to Congress and the
2 President the comprehensive agenda required
3 by paragraph (1).

4 (B) UPDATES.—At least once every 2
5 years, the Council shall update the comprehen-
6 sive agenda required by paragraph (1) and sub-
7 mit each such update to Congress and the
8 President.

9 (e) TECHNICAL AMENDMENT.—Section 101(b) of the
10 High-Performance Computing Act of 1991 (15 U.S.C.
11 5511(b)) is amended by striking “an” in the first sentence
12 and inserting “a distinct”.

13 (f) OPTIONAL ASSIGNMENT.—Notwithstanding sub-
14 section (a) and paragraphs (1) and (2) of subsection (c),
15 the President may designate an existing council to carry
16 out the requirements of this section.

17 **SEC. 1202. INNOVATION ACCELERATION RESEARCH.**

18 (a) PROGRAM ESTABLISHED.—The President,
19 through the head of each Federal research agency, shall
20 establish a program, to be known as the Innovation Accel-
21 eration Research Program, to support and promote inno-
22 vation in the United States through research projects that
23 can yield results with far-ranging or wide-ranging implica-
24 tions but are considered too novel or span too diverse a
25 range of disciplines to fare well in the traditional peer re-

1 view process. Priority in the awarding of grants under this
2 program shall be given to research projects that—

3 (1) meet fundamental technology or scientific
4 challenges;

5 (2) involve multidisciplinary work; and

6 (3) involve a high degree of novelty.

7 (b) DEPARTMENTS AND AGENCIES.—

8 (1) FUNDING GOALS.—The President shall en-
9 sure that it is the goal of each Executive agency (as
10 defined in section 105 of title 5, United States
11 Code) that finances research in science, mathe-
12 matics, engineering, and technology to allocate ap-
13 proximately 8 percent of the agency's total annual
14 research and development budget to funding re-
15 search, including grants, under the Innovation Accel-
16 eration Research Program.

17 (2) ADMINISTRATION.—

18 (A) IN GENERAL.—Not later than 90 days
19 after the date of enactment of this Act, the
20 head of each Executive agency participating in
21 the Innovation Acceleration Research Program
22 under paragraph (1) shall submit to the Direc-
23 tor of the Office of Science and Technology Pol-
24 icy and the Director of the Office of Manage-
25 ment and Budget a plan for implementing the

1 research program within such Executive agency.
2 An implementation plan may incorporate exist-
3 ing initiatives of the Executive agencies that
4 promote research in innovation as described in
5 subsection (a).

6 (B) REQUIRED METRICS.—

7 (i) IN GENERAL.—The head of each
8 Executive agency submitting an implemen-
9 tation plan pursuant to subparagraph (A)
10 shall include metrics upon which grant
11 funding decisions will be made and metrics
12 for assessing the success of the grants
13 awarded.

14 (ii) METRICS FOR BASIC RESEARCH.—

15 The metrics developed under clause (i) to
16 assess basic research programs shall assess
17 management of the programs and shall not
18 assess specific scientific outcomes of the
19 research conducted by the programs.

20 (C) GRANT DURATION AND RENEWALS.—

21 (i) IN GENERAL.—Any grants issued
22 by an Executive agency under this section
23 shall be for a period not to exceed 3 years.

24 (ii) EVALUATION.—Not later than 90
25 days prior to the expiration of a grant

1 issued under this section, the Executive
2 agency that approved the grant shall com-
3 plete an evaluation of the effectiveness of
4 the grant based on the metrics established
5 pursuant to subparagraph (B). In its eval-
6 uation, the Executive agency shall consider
7 the extent to which the program funded by
8 the grant met the goals of quality improve-
9 ment and job creation.

10 (iii) PUBLICATION OF REVIEW.—The
11 Executive agency shall publish and make
12 available to the public the review of each
13 grant approved pursuant to this section.

14 (iv) FAILURE TO MEET METRICS.—
15 Any grant that the Executive agency
16 awarding the grant determines has failed
17 to satisfy any of the metrics developed pur-
18 suant to subparagraph (B), shall not be el-
19 igible for a renewal.

20 (v) RENEWAL.—A grant issued under
21 this section that satisfies all of the metrics
22 developed pursuant to subparagraph (B),
23 may be renewed once for a period of not
24 more than 3 years. Additional renewals
25 may be considered only if the head of the

Executive agency makes a specific finding that the program being funded involves a significant technology or scientific advance that requires a longer time frame to complete critical research, and the research satisfies all the metrics developed pursuant to subparagraph (B).

(vi) WAIVER.—The head of the Executive agency may authorize a waiver of the requirement of clauses (iv) and (v) related to satisfying metric requirements if he or she determines that the grant failed to meet a small number of metrics and the failure was not significant for the overall performance of the grant.

(c) DEFINITIONS.—In this section:

(1) FEDERAL RESEARCH AGENCY.—The term “Federal research agency” means a major organizational component of a department or agency of the Federal Government, or other establishment of the Federal Government operating with appropriated funds, that has as its primary purpose the performance of scientific research.

(2) MAJOR ORGANIZATIONAL COMPONENT.—The term “major organizational component”, with

1 respect to a department, agency, or other establish-
 2 ment of the Federal Government, means a compo-
 3 nent of the department, agency, or other establish-
 4 ment that is administered by an individual whose
 5 rate of basic pay is not less than the rate of basic
 6 pay payable under level V of the Executive Schedule
 7 under section 5316 of title 5, United States Code.

8 **TITLE III—NATIONAL AERO-**
 9 **NAUTICS AND SPACE ADMIN-**
 10 **ISTRATION**

11 **SEC. 1301. NASA’S CONTRIBUTION TO INNOVATION.**

12 (a) PARTICIPATION IN INTERAGENCY ACTIVITIES.—
 13 The National Aeronautics and Space Administration shall
 14 be a full participant in any interagency effort to promote
 15 innovation and economic competitiveness through near-
 16 term and long-term basic scientific research and develop-
 17 ment and the promotion of science, technology, engineer-
 18 ing, and mathematics education.

19 (b) HISTORIC FOUNDATION.—In order to carry out
 20 the participation described in subsection (a), the Adminis-
 21 trator of the National Aeronautics and Space Administra-
 22 tion shall build on the historic role of the National Aero-
 23 nautics and Space Administration in stimulating excel-
 24 lence in the advancement of physical science and engineer-
 25 ing disciplines and in providing opportunities and incen-

1 tives for the pursuit of academic studies in science, tech-
2 nology, engineering, and mathematics.

3 (c) BALANCED SCIENCE PROGRAM AND ROBUST AU-
4 THORIZATION LEVELS.—The balanced science program
5 authorized by section 101(d) of the National Aeronautics
6 and Space Administration Authorization Act of 2005
7 (Public Law 109–155; 42 U.S.C. 16611) shall be an ele-
8 ment of the contribution by the National Aeronautics and
9 Space Administration to such interagency programs. It is
10 the sense of Congress that a robust National Aeronautics
11 and Space Administration, funded at the levels authorized
12 for fiscal years 2007 and 2008 under sections 202 and
13 203 of such Act (42 U.S.C. 16631 and 16632) and at
14 appropriate levels in subsequent fiscal years would enable
15 a fair balance among science, aeronautics, education, ex-
16 ploration, and human space flight programs and allow full
17 participation in any interagency efforts to promote innova-
18 tion and economic competitiveness.

19 (d) ANNUAL REPORT.—

20 (1) REQUIREMENT.—The Administrator shall
21 submit to Congress and the President an annual re-
22 port describing the activities conducted pursuant to
23 this section, including a description of the goals and
24 the objective metrics upon which funding decisions
25 were made.

1 (2) CONTENT.—Each report submitted pursu-
 2 ant to paragraph (1) shall include, with regard to
 3 science, technology, engineering, and mathematics
 4 education programs, at a minimum, the following:

5 (A) A description of each program.

6 (B) The amount spent on each program.

7 (C) The number of students or teachers
 8 served by each program.

9 (D) Measurement of how each program
 10 improved student achievement, including with
 11 regard to challenging State achievement stand-
 12 ards.

13 **SEC. 1302. AERONAUTICS INSTITUTE FOR RESEARCH.**

14 (a) ESTABLISHMENT.—

15 (1) IN GENERAL.—The Administrator of the
 16 National Aeronautics and Space Administration
 17 shall establish within the Administration an Aero-
 18 nautics Institute for Research for the purpose of
 19 managing the aeronautics research carried out by
 20 the Administration.

21 (2) DIRECTOR.—The Institute shall be headed
 22 by a Director with appropriate experience in aero-
 23 nautics research and development.

24 (b) DUTIES.—The Institute shall implement the pro-
 25 grams authorized under title IV of the National Aero-

1 nautics and Space Administration Authorization Act of
2 2005 (Public Law 109–155; 42 U.S.C. 16701 et seq.).

3 (c) COOPERATION WITH OTHER AGENCIES.—

4 (1) IN GENERAL.—The Institute shall operate
5 in conjunction with relevant programs in the De-
6 partment of Transportation, the Department of De-
7 fense, the Department of Commerce, and the De-
8 partment of Homeland Security, including the activi-
9 ties of the Joint Planning and Development Office
10 established under the Vision 100—Century of Avia-
11 tion Reauthorization Act (Public Law 108–176; 117
12 Stat. 2490).

13 (2) RESOURCES.—The Director of the Institute
14 may accept assistance, staff, and funding from those
15 Departments and other Federal agencies. Any such
16 funding shall be in addition to funds authorized for
17 aeronautics under the National Aeronautics and
18 Space Administration Authorization Act of 2005
19 (Public Law 109–155; 119 Stat. 2895).

20 (3) OTHER COORDINATION.—The Director of
21 the Institute may utilize the Next Generation Air
22 Transportation Senior Policy Committee established
23 under section 710 of the Vision 100—Century of
24 Aviation Reauthorization Act (Public Law 108–176;

1 49 U.S.C. 40101 note) to coordinate its programs
2 with other Departments and agencies.

3 (d) PARTNERSHIPS.—In developing and carrying out
4 its plans, the Institute shall consult with the public and
5 ensure the participation of experts from the private sector
6 including representatives of commercial aviation, general
7 aviation, aviation labor groups, aviation research and de-
8 velopment entities, aircraft and air traffic control sup-
9 pliers, and the space industry.

10 **SEC. 1303. BASIC RESEARCH ENHANCEMENT.**

11 (a) IN GENERAL.—The Administrator of the Na-
12 tional Aeronautics and Space Administration, the Director
13 of the National Science Foundation, the Secretary of En-
14 ergy, the Secretary of Defense, and Secretary of Com-
15 merce shall, to the extent practicable, coordinate basic and
16 fundamental research activities related to physical
17 sciences, technology, engineering and mathematics.

18 (b) ESTABLISHMENT OF BASIC RESEARCH EXECU-
19 TIVE COUNCIL.—In order to ensure effective application
20 of resources to basic science activity and to facilitate coop-
21 erative basic and fundamental research activities with
22 other governmental organizations, the Administrator of
23 the National Aeronautics and Space Administration shall
24 establish within the Administration a Basic Research Ex-
25 ecutive Council to oversee the distribution and manage-

1 ment of programs and resources engaged in support of
2 basic research activity.

3 (c) MEMBERSHIP.—The membership of the Basic Re-
4 search Executive Council shall consist of the most senior
5 agency official representing each of the following areas of
6 research:

7 (1) Space Science.

8 (2) Earth Science.

9 (3) Life and Microgravity Sciences.

10 (4) Aeronautical Research.

11 (d) LEADERSHIP.—The Basic Research Executive
12 Council shall be chaired by an individual appointed for
13 that purpose who shall have, as a minimum, a appropriate
14 graduate degree in a recognizable discipline in the physical
15 sciences, and appropriate experience in the conduct and
16 management of basic research activity. The Chairman of
17 the Council shall report directly to the Administrator of
18 the National Aeronautics and Space Administration.

19 (e) SUPPORTING RESOURCES AND PERSONNEL.—
20 The Chairman of the Basic Research Executive Council
21 shall be provided with adequate administrative staff sup-
22 port to conduct the activity and functions of the Council.

23 (f) DUTIES.—The Basic Research Executive Council
24 shall have, at minimum, the following duties:

1 (1) To establish criteria for the identification of
2 research activity as basic in nature.

3 (2) To establish, in consultation with the Office
4 of Science and Technology Policy, the National
5 Science Foundation, the National Academy of
6 Sciences, the National Institutes of Health, and
7 other appropriate external organizations, a
8 prioritization of fundamental research activity to be
9 conducted by the National Aeronautics and Space
10 Administration, to be reviewed and updated on an
11 annual basis, taking into consideration evolving na-
12 tional research priorities.

13 (3) To monitor, review, and evaluate all basic
14 research activity of the National Aeronautics and
15 Space Administration for compliance with basic re-
16 search priorities established under paragraph (2).

17 (4) To make recommendations to the Adminis-
18 trator of the National Aeronautics and Space Ad-
19 ministration regarding adjustments in the basic re-
20 search activities of the Administration to ensure con-
21 sistency with the research priorities established
22 under this section.

23 (5) To provide an annual report to the Com-
24 mittee on Commerce, Science, and Transportation of
25 the Senate and the Committee on Science of the

1 House of Representatives outlining the activities of
2 the Council during the preceding year and the status
3 of basic research activity within the Administration.
4 The initial such report, to serve as a baseline docu-
5 ment, shall be provided within 90 days after the es-
6 tablishment and initial operations of the Council.

7 **SEC. 1304. AGING WORKFORCE ISSUES PROGRAM.**

8 It is the sense of Congress that the Administrator
9 of the National Aeronautics and Space Administration
10 should implement a program to address aging work force
11 issues in aerospace that—

12 (1) documents technical and management expe-
13 riences before senior people leave the Administra-
14 tion, including—

15 (A) documenting lessons learned;

16 (B) briefing organizations;

17 (C) providing opportunities for archiving
18 lessons in a database; and

19 (D) providing opportunities for near-term
20 retirees to transition out early from their pri-
21 mary assignment in order to document their ca-
22 reer lessons learned and brief new employees
23 prior to their separation from the Administra-
24 tion;

1 (2) provides incentives for retirees to return
2 and teach new employees about their career lessons
3 and experiences; and

4 (3) provides for the development of an award to
5 recognize and reward outstanding senior employees
6 for their contributions to knowledge sharing.

7 **SEC. 1305. CONFORMING AMENDMENTS.**

8 Section 101(d) of the National Aeronautics and
9 Space Administration Authorization Act of 2005 (Public
10 Law 109–155; 42 U.S.C. 16611(d)) is amended—

11 (1) by striking “and” after the semicolon in
12 paragraph (2)(B);

13 (2) by striking “Act.” in paragraph (2)(C) and
14 inserting “Act; and”;

15 (3) by adding at the end of paragraph (2) the
16 following:

17 “(D) the number and content of science
18 activities which are undertaken in support of
19 science missions described in subparagraph (A),
20 and the number and content of science activi-
21 ties which may be considered as fundamental,
22 or basic research, whether incorporated within
23 specific missions or conducted independently of
24 any specific mission.”; and

1 (4) by adding at the end of paragraph (3) the
2 following:

3 “(H) How NASA science activities can
4 best be structured to ensure that basic and fun-
5 damental research can be effectively maintained
6 and coordinated in response to national goals in
7 competitiveness and innovation, and in contrib-
8 uting to national scientific, technology, engi-
9 neering and mathematics leadership.”.

10 **SEC. 1306. FISCAL YEAR 2007 BASIC SCIENCE AND RE-**
11 **SEARCH FUNDING.**

12 Notwithstanding any other provision of law, the Ad-
13 ministrator of the National Aeronautics and Space Admin-
14 istration shall increase funding for basic science and re-
15 search, including for the Explorer Program, for fiscal year
16 2007 by \$160,000,000 by transferring such amount for
17 such purpose from accounts of the National Aeronautics
18 and Space Administration. The transfer shall be contin-
19 gent upon the availability of unobligated balances to the
20 National Aeronautics and Space Administration.

1 **TITLE IV—NATIONAL INSTITUTE**
2 **OF STANDARDS AND TECH-**
3 **NOLOGY**

4 **SEC. 1401. AUTHORIZATION OF APPROPRIATIONS.**

5 There are authorized to be appropriated to the Sec-
6 retary of Commerce for the use of the National Institute
7 of Standards and Technology—

8 (1) for fiscal year 2007, \$639,646,000, of
9 which \$110,000,000 shall be used for the Hollings
10 Manufacturing Extension Partnership Program;

11 (2) for fiscal year 2008, \$703,611,000, of
12 which \$115,000,000 shall be used for the Hollings
13 Manufacturing Extension Partnership Program;

14 (3) for fiscal year 2009, \$773,972,000, of
15 which \$120,000,000 shall be used for the Hollings
16 Manufacturing Extension Partnership Program;

17 (4) for fiscal year 2010, \$851,369,000, of
18 which \$125,000,000 shall be used for the Hollings
19 Manufacturing Extension Partnership Program; and

20 (5) for fiscal year 2011, \$936,506,000, of
21 which \$130,000,000 shall be used for the Hollings
22 Manufacturing Extension Partnership Program.

1 **SEC. 1402. AMENDMENTS TO THE STEVENSON-WYDLER**
2 **TECHNOLOGY INNOVATION ACT OF 1980.**

3 (a) IN GENERAL.—Section 5 of the Stevenson-
4 Wydler Technology Innovation Act of 1980 (15 U.S.C.
5 3704) is repealed.

6 (b) CONFORMING AMENDMENTS.—

7 (1) TITLE 5, UNITED STATES CODE.—Section
8 5314 of title 5, United States Code, is amended by
9 striking “Under Secretary of Commerce for Tech-
10 nology.”.

11 (2) DEFINITIONS.—Section 4 of the Stevenson-
12 Wydler Technology Innovation Act of 1980 (15
13 U.S.C. 3703) is amended—

14 (A) by striking paragraphs (1) and (3);
15 and

16 (B) by redesignating paragraphs (2)
17 through (13) as paragraphs (1) through (11),
18 respectively.

19 (3) REPEAL OF AUTHORIZATION.—Section
20 21(a) of the Stevenson-Wydler Technology Innova-
21 tion Act of 1980 (15 U.S.C. 3713(a)) is amended—

22 (A) in paragraph (1), by striking “sections
23 5, 11(g), and 16” and inserting “sections 11(g)
24 and 16”; and

25 (B) in paragraph (2), by striking
26 “\$500,000 is authorized only for the purpose of

1 carrying out the requirements of the Japanese
 2 technical literature program established under
 3 section 5(d) of this Act;”.

4 (4) HIGH-PERFORMANCE COMPUTING ACT OF
 5 1991.—Section 208 of the High-Performance Com-
 6 puting Act of 1991 (15 U.S.C. 5528) is amended by
 7 striking subsection (c) and redesignating subsection
 8 (d) as subsection (c).

9 (5) ASSISTIVE TECHNOLOGY ACT OF 1998.—
 10 Section 6(b)(4)(B)(v) of the Assistive Technology
 11 Act of 1998 (29 U.S.C. 3005(b)(4)(B)(v)) is amend-
 12 ed by striking “the Technology Administration of
 13 the Department of Commerce,” and inserting “the
 14 National Institute of Standards and Technology,”.

15 **SEC. 1403. INNOVATION ACCELERATION.**

16 (a) PROGRAM.—In order to implement section 1202
 17 of this Act, the Director of the National Institute of
 18 Standards and Technology shall—

19 (1) establish a program linked to the goals and
 20 objectives of the measurement laboratories, to be
 21 known as the “Standards and Technology Accelera-
 22 tion Research Program”, to support and promote in-
 23 novation in the United States through high-risk,
 24 high-reward research; and

1 (2) set aside, from funds available to the meas-
2 urement laboratories, an amount equal to not less
3 than 8 percent of the funds available to the Institute
4 each fiscal year for such Program.

5 (b) EXTERNAL FUNDING.—The Director shall ensure
6 that at least 80 percent of the funds available for such
7 Program shall be used to award competitive, merit-re-
8 viewed grants, cooperative agreements, or contracts to
9 public or private entities, including businesses and univer-
10 sities. In selecting entities to receive such assistance, the
11 Director shall ensure that the project proposed by an enti-
12 ty has scientific and technical merit and that any resulting
13 intellectual property shall vest in a United States entity
14 that can commercialize the technology in a timely manner.
15 Each external project shall involve at least one small or
16 medium-sized business and the Director shall give priority
17 to joint ventures between small or medium-sized busi-
18 nesses and educational institutions. Any grant shall be for
19 a period not to exceed 3 years.

20 (c) COMPETITIONS.—The Director shall solicit pro-
21 posals annually to address areas of national need for high-
22 risk, high-reward research, as identified by the Director.

23 (d) ANNUAL REPORT.—Each year the Director shall
24 issue an annual report describing the program's activities,
25 including include a description of the metrics upon which

1 grant funding decisions were made in the previous fiscal
 2 year, any proposed changes to those metrics, metrics for
 3 evaluating the success of ongoing and completed grants,
 4 and an evaluation of ongoing and completed grants. The
 5 first annual report shall include best practices for manage-
 6 ment of programs to stimulate high-risk, high-reward re-
 7 search.

8 (e) ADMINISTRATIVE EXPENSES.—No more than 5
 9 percent of the finding available to the program may be
 10 used for administrative expenses.

11 (f) HIGH-RISK, HIGH-REWARD RESEARCH DE-
 12 FINED.—In this section, the term “high-risk, high-reward
 13 research” means research that—

14 (1) has the potential for yielding results with
 15 far-ranging or wide-ranging implications;

16 (2) addresses critical national needs related to
 17 measurement standards and technology; and

18 (3) is too novel or spans too diverse a range of
 19 disciplines to fare well in the traditional peer review
 20 process.

21 **SEC. 1404. MANUFACTURING EXTENSION.**

22 (a) MANUFACTURING CENTER EVALUATION.—Sec-
 23 tion 25(c)(5) of the National Institute of Standards and
 24 Technology Act (15 U.S.C. 278k(c)(5)) is amended by in-
 25 serting “A Center that has not received a positive evalua-

tion by the evaluation panel shall be notified by the panel of the deficiencies in its performance and shall be placed on probation for one year, after which time the panel shall reevaluate the Center. If the Center has not addressed the deficiencies identified by the panel, or shown a significant improvement in its performance, the Director shall conduct a new competition to select an operator for the Center or may close the Center.” after “at declining levels.”.

(b) FEDERAL SHARE.—Strike section 25(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(d)) and insert the following:

“(d) ACCEPTANCE OF FUNDS.—In addition to such sums as may be appropriated to the Secretary and Director to operate the Centers program, the Secretary and Director also may accept funds from other Federal departments and agencies and under section 2(c)(7) from the private sector for the purpose of strengthening United States manufacturing. Such funds from the private sector, if allocated to a Center or Centers, shall not be considered in the calculation of the Federal share of capital and annual operating and maintenance costs under subsection (c).”.

1 **SEC. 1405. EXPERIMENTAL PROGRAM TO STIMULATE COM-**
2 **PETITIVE TECHNOLOGY.**

3 (a) IN GENERAL.—The Director of the National In-
4 stitutes of Standards and Technology shall re-establish the
5 Experimental Program to Stimulate Competitive Tech-
6 nology. The purpose of the program shall be to strengthen
7 the technological competitiveness of those States that have
8 historically received less Federal research and development
9 funds than a majority of the States have received.

10 (b) ARRANGEMENTS.—In carrying out the program,
11 the Director shall cooperate with State, regional, or local
12 science and technology-based economic development orga-
13 nization and with representatives of small business firms
14 and other appropriate technology-based businesses.

15 (c) GRANTS AND COOPERATIVE AGREEMENTS.—In
16 carrying out the program, the Director may make grants
17 or enter into cooperative agreements to provide for—

- 18 (1) technology research and development;
19 (2) technology transfer from university re-
20 search;
21 (3) technology deployment and diffusion; and
22 (4) the strengthening of technological and inno-
23 vation capabilities through consortia comprised of—
24 (A) technology-based small business firms;
25 (B) industries and emerging companies;

1 (C) institutions of higher education includ-
2 ing community colleges; and

3 (D) State and local development agencies
4 and entities.

5 (d) REQUIREMENTS FOR MAKING AWARDS.—

6 (1) IN GENERAL.—In making awards under
7 this section, the Director shall ensure that the
8 awards are awarded on a competitive basis that in-
9 cludes a review of the merits of the activities that
10 are the subject of the award, giving special emphasis
11 to those projects which will increase the participa-
12 tion of women, Native Americans (including Native
13 Hawaiians and Alaska Natives), and underrep-
14 resented groups in science and technology.

15 (2) MATCHING REQUIREMENT.—The non-Fed-
16 eral share of the activities (other than planning ac-
17 tivities) carried out under an award under this sub-
18 section shall be not less than 50 percent of the cost
19 of those activities.

20 (e) CRITERIA FOR STATES.—The Director shall es-
21 tablish criteria for achievement by each State that partici-
22 pates in the program. Upon the achievement of all such
23 criteria, a State shall cease to be eligible to participate
24 in the program.

1 (f) COORDINATION.—To the extent practicable, in
2 carrying out this subsection, the Director shall coordinate
3 the program with other programs of the Department of
4 Commerce.

5 (g) REPORT.—

6 (1) IN GENERAL.—Not later than 90 days after
7 the date of enactment of this Act, the Director shall
8 prepare and submit to the Committee on Commerce,
9 Science, and Transportation of the Senate and the
10 Committee on Science of the House of Representa-
11 tives a report that meets the requirements of this
12 subsection.

13 (2) REQUIREMENTS FOR REPORT.—The report
14 required by this subsection shall contain—

15 (A) a description of the structure and pro-
16 cedures of the program;

17 (B) a management plan for the program;

18 (C) a description of the merit-based review
19 process to be used in the program;

20 (D) milestones for the evaluation of activi-
21 ties to be assisted under the program in fiscal
22 year 2008;

23 (E) an assessment of the eligibility of each
24 State that participates in the Experimental
25 Program to Stimulate Competitive Research of

1 the National Science Foundation to participate
 2 in the program under this subsection; and

3 (F) the evaluation criteria with respect to
 4 which the overall management and effectiveness
 5 of the program will be evaluated.

6 **SEC. 1406. TECHNICAL AMENDMENTS TO THE NATIONAL IN-**
 7 **STITUTE OF STANDARDS AND TECHNOLOGY**
 8 **ACT AND OTHER TECHNICAL AMENDMENTS.**

9 (a) RESEARCH FELLOWSHIPS.—Section 18 of the
 10 National Institute of Standards and Technology Act (15
 11 U.S.C. 278g–1) is amended by striking “up to 1 per cen-
 12 tum of the” in the first sentence.

13 (b) FINANCIAL AGREEMENTS.—

14 (1) CLARIFICATION.—Section 2(b)(4) of the
 15 National Institute of Standards and Technology Act
 16 (15 U.S.C. 272(b)(4)) is amended by inserting “and
 17 grants and cooperative agreements,” after “arrange-
 18 ments,”.

19 (2) MEMBERSHIPS.—Section 2(c) of the Na-
 20 tional Institute of Standards and Technology Act
 21 (15 U.S.C. 272(c)) is amended—

22 (A) by striking “and” after the semicolon
 23 in paragraph (21);

24 (B) by redesignating paragraph (22) as
 25 paragraph (23); and

1 (C) by inserting after paragraph (21) the
2 following:

3 “(22) notwithstanding subsection (b)(4) of this
4 section, the Grants and Cooperative Agreements Act
5 (31 U.S.C. 6301–6308), the Competition in Con-
6 tracting Act (31 U.S.C. 3551–3556), and the Fed-
7 eral Acquisition Regulations set forth in title 48,
8 Code of Federal Regulations, to expend appropriated
9 funds for National Institute of Standards and Tech-
10 nology memberships in scientific organizations, reg-
11 istration fees for attendance at conferences, and
12 sponsorship of conferences in furtherance of tech-
13 nology transfer; and”.

14 (c) WORKING CAPITAL FUND.—Section 12 of the
15 National Institute of Standards and Development Act (15
16 U.S.C. 278b) is amended by adding at the end the fol-
17 lowing:

18 “(g) AMOUNT AND SOURCE OF TRANSFERS.—Not to
19 exceed one-quarter per centum of the amounts appro-
20 priated to the Institute for any fiscal year may be trans-
21 ferred to the fund, in addition to any other transfer au-
22 thority. In addition, funds provided to the Institute from
23 other Federal agencies for the purpose of production of
24 Standard Reference Materials may be transferred to the
25 fund.”.

1 (d) OUTDATED SPECIFICATIONS.—

2 (1) REDEFINITION OF METRIC SYSTEM.—Sec-
 3 tion 2 of the Act of July 28, 1866, entitled “An Act
 4 to authorize the Use of the Metric System of
 5 Weights and Measures” (15 U.S.C. 205; 14 Stat.
 6 339, 340) is amended to read as follows:

7 **“SEC. 2. METRIC SYSTEM DEFINED.**

8 “The metric system of measurement shall be defined
 9 as the International System of Units as established in
 10 1960, and subsequently maintained, by the General Con-
 11 ference of Weights and Measures, and as interpreted or
 12 modified for the United States by the Secretary of Com-
 13 merce.”.

14 (2) REPEAL OF REDUNDANT AND OBSOLETE
 15 AUTHORITY.—The Act of July 21, 1950, entitled,
 16 “An Act To redefine the units and establish the
 17 standards of electrical and photometric measure-
 18 ments of 1950” (15 U.S.C. 223, 224) is hereby re-
 19 pealed.

20 (3) IDAHO TIME ZONE.—Section 3 of the Act of
 21 March 19, 1918, (15 U.S.C. 264; commonly known
 22 as the Calder Act) is amended—

23 (A) in the section heading, by striking
 24 **“third zone”** and inserting **“fourth zone”**;
 25 and

1 (B) by striking “third zone” and inserting
 2 “fourth zone”.

3 (4) STANDARD TIME.—The first section of the
 4 Act of March 19, 1918, (15 U.S.C. 261; commonly
 5 known as the Calder Act) is amended—

6 (A) by inserting “(a) IN GENERAL.—” be-
 7 fore “For the purpose”;

8 (B) by striking the second sentence and
 9 the extra period after it and inserting “Except
 10 as provided in section 3(a) of the Uniform Time
 11 Act of 1966, the standard time of the first zone
 12 shall be Coordinated Universal Time retarded
 13 by 4 hours; that of the second zone retarded by
 14 5 hours; that of the third zone retarded by 6
 15 hours; that of the fourth zone retarded by 7
 16 hours; that of the fifth zone retarded 8 hours;
 17 that of the sixth zone retarded by 9 hours; that
 18 of the seventh zone retarded by 10 hours; that
 19 of the eighth zone retarded by 11 hours; and
 20 that of the ninth zone shall be Coordinated
 21 Universal Time advanced by 10 hours.”; and

22 (C) adding at the end the following:

23 “(b) COORDINATED UNIVERSAL TIME DEFINED.—In
 24 this section, the term ‘Coordinated Universal Time’ means
 25 the time scale maintained through the General Conference

1 of Weights and Measures and interpreted or modified for
 2 the United States by the Secretary of Commerce in coordi-
 3 nation with the Secretary of the Navy.”.

4 (e) RETENTION OF DEPRECIATION SURCHARGE.—
 5 Section 14 of the National Institute of Standards and
 6 Technology Act (15 U.S.C. 278d) is amended—

7 (1) by inserting “(a) IN GENERAL.—” before
 8 “Within”; and

9 (2) adding at the end the following:

10 “(b) RETENTION OF FEES.—The Director is author-
 11 ized to retain all building use and depreciation surcharge
 12 fees collected pursuant to OMB Circular A-25. Such fees
 13 shall be collected and credited to the Construction of Re-
 14 search Facilities Appropriation Account for use in mainte-
 15 nance and repair of National Institute of Standards and
 16 Technology’s existing facilities.”.

17 (f) NON-ENERGY INVENTIONS PROGRAM.—Section
 18 27 of the National Institute of Standards and Technology
 19 Act (15 U.S.C. 278m) is repealed.

20 **TITLE V—OCEAN AND** 21 **ATMOSPHERIC PROGRAMS**

22 **SEC. 1501. OCEAN AND ATMOSPHERIC RESEARCH AND DE-** 23 **VELOPMENT PROGRAM.**

24 The Administrator of the National Oceanic and At-
 25 mospheric Administration, in consultation with the Direc-

1 tor of the National Science Foundation and the Adminis-
 2 trator of the National Aeronautics and Space Administra-
 3 tion, shall establish a coordinated program of ocean and
 4 atmospheric research and development, in collaboration
 5 with academic institutions and other nongovernmental en-
 6 tities, that shall focus on the development of advanced
 7 technologies and analytical methods that will promote
 8 United States leadership in ocean and atmospheric science
 9 and competitiveness in the applied uses of such knowledge.

10 **SEC. 1502. NOAA OCEAN AND ATMOSPHERIC SCIENCE EDU-**
 11 **CATION PROGRAMS.**

12 (a) IN GENERAL.—The Administrator of the Na-
 13 tional Oceanic and Atmospheric Administration shall con-
 14 duct, develop, support, promote, and coordinate formal
 15 and informal educational activities at all levels to enhance
 16 public awareness and understanding of ocean, coastal, and
 17 atmospheric science and stewardship by the general public
 18 and other coastal stakeholders, including underrep-
 19 resented groups in ocean and atmospheric science and pol-
 20 icy careers. In conducting those activities, the Adminis-
 21 trator shall build upon the educational programs and ac-
 22 tivities of the agency.

23 (b) NOAA SCIENCE EDUCATION PLAN.—The Ad-
 24 ministrator, appropriate National Oceanic and Atmos-
 25 pheric Administration programs, ocean atmospheric

1 science and education experts, and interested members of
 2 the public shall develop a science education plan setting
 3 forth education goals and strategies for the Administra-
 4 tion, as well as programmatic actions to carry out such
 5 goals and priorities over the next 20 years, and evaluate
 6 and update such plan every 5 years.

7 (c) CONSTRUCTION.—Nothing in this section may be
 8 construed to affect the application of section 438 of the
 9 General Education Provisions Act (20 U.S.C. 1232a) or
 10 sections 504 and 508 of the Rehabilitation Act of 1973
 11 (29 U.S.C. 794 and 794d).

12 **DIVISION B—DEPARTMENT OF** 13 **ENERGY**

14 **SEC. 2001. SHORT TITLE.**

15 This division may be cited as the “Protecting Amer-
 16 ica’s Competitive Edge Through Energy Act” or the
 17 “PACE–Energy Act”.

18 **SEC. 2002. DEFINITIONS.**

19 In this division:

20 (1) DEPARTMENT.—The term “Department”
 21 means the Department of Energy.

22 (2) INSTITUTION OF HIGHER EDUCATION.—The
 23 term “institution of higher education” has the
 24 meaning given in section 101(a) of the Higher Edu-
 25 cation Act of 1965 (20 U.S.C. 1001(a)).

1 (3) NATIONAL LABORATORY.—The term “Na-
 2 tional Laboratory” has the meaning given the term
 3 in section 2 of the Energy Policy Act of 2005 (42
 4 U.S.C. 15801).

5 (4) SECRETARY.—The term “Secretary” means
 6 the Secretary of Energy, acting through the Under
 7 Secretary for Science appointed under section
 8 202(b) of the Department of Energy Organization
 9 Act (42 U.S.C. 7132(b)).

10 **SEC. 2003. MATHEMATICS, SCIENCE, AND ENGINEERING**
 11 **EDUCATION AT THE DEPARTMENT OF EN-**
 12 **ERGY.**

13 (a) SCIENCE EDUCATION PROGRAMS.—Section 3164
 14 of the Department of Energy Science Education Enhance-
 15 ment Act (42 U.S.C. 7381a) is amended—

16 (1) by redesignating subsections (b) through (d)
 17 as subsections (c) through (e), respectively;

18 (2) by inserting after subsection (a) the fol-
 19 lowing:

20 “(b) ORGANIZATION OF MATHEMATICS, SCIENCE,
 21 AND ENGINEERING EDUCATION PROGRAMS.—

22 “(1) DIRECTOR OF MATHEMATICS, SCIENCE
 23 AND ENGINEERING EDUCATION.—Notwithstanding
 24 any other provision of law, the Secretary, acting
 25 through the Under Secretary for Science (referred to

1 in this subsection as the ‘Under Secretary’), shall
2 appoint a Director of Mathematics, Science, and En-
3 gineering Education (referred to in this subsection
4 as the ‘Director’) with the principal responsibility for
5 administering mathematics, science, and engineering
6 education programs across all functions of the De-
7 partment.

8 “(2) QUALIFICATIONS.—The Director shall be
9 an individual, who by reason of professional back-
10 ground and experience, is specially qualified to ad-
11 vise the Under Secretary on all matters pertaining
12 to mathematics, science, and engineering education
13 at the Department.

14 “(3) DUTIES.—The Director shall—

15 “(A) oversee all mathematics, science, and
16 engineering education programs of the Depart-
17 ment;

18 “(B) represent the Department as the
19 principal interagency liaison for all mathe-
20 matics, science, and engineering education pro-
21 grams, unless otherwise represented by the Sec-
22 retary or the Under Secretary;

23 “(C) prepare the annual budget and advise
24 the Under Secretary on all budgetary issues for

1 mathematics, science, and engineering edu-
2 cation programs of the Department;

3 “(D) increase, to the maximum extent
4 practicable, the participation and advancement
5 of women and underrepresented minorities at
6 every level of science, technology, engineering,
7 and mathematics education; and

8 “(E) perform other such matters related to
9 mathematics, science, and engineering edu-
10 cation as are required by the Secretary or the
11 Under Secretary.

12 “(4) STAFF AND OTHER RESOURCES.—The
13 Secretary shall assign to the Director such personnel
14 and other resources as the Secretary considers nec-
15 essary to permit the Director to carry out the duties
16 of the Director.

17 “(5) ASSESSMENT.—

18 “(A) IN GENERAL.—The Secretary shall
19 offer to enter into a contract with the National
20 Academy of Sciences under which the National
21 Academy, not later than 5 years after, and not
22 later than 10 years after, the date of enactment
23 of this paragraph, shall assess the performance
24 of the mathematics, science, and engineering
25 education programs of the Department.

1 “(B) CONSIDERATIONS.—An assessment
 2 under this paragraph shall be conducted taking
 3 into consideration, where applicable, the effect
 4 of mathematics, science, and engineering edu-
 5 cation programs of the Department on student
 6 academic achievement in math and science.

7 “(6) AUTHORIZATION OF APPROPRIATIONS.—
 8 There are authorized to be appropriated such sums
 9 as are necessary to carry out this subsection.”; and
 10 (3) by striking subsection (d) (as redesignated
 11 by paragraph (1)) and inserting the following:

12 “(d) MATHEMATICS, SCIENCE, AND ENGINEERING
 13 EDUCATION FUND.—The Secretary shall establish a
 14 Mathematics, Science, and Engineering Education Fund,
 15 using not less than 0.3 percent of the amount made avail-
 16 able to the Department for research, development, dem-
 17 onstration, and commercial application for each fiscal
 18 year, to carry out sections 3165, 3166, and 3167.”.

19 (b) CONSULTATION.—The Secretary shall—
 20 (1) consult with the Secretary of Education re-
 21 garding activities authorized under subpart B of the
 22 Department of Energy Science Education Enhance-
 23 ment Act (as added by subsection (d)(3)) to improve
 24 mathematics and science education; and

1 (2) otherwise make available to the Secretary of
2 Education reports associated with programs author-
3 ized under that section.

4 (c) DEFINITION.—Section 3168 of the Department
5 of Energy Science Education Enhancement Act (42
6 U.S.C. 7381d) is amended by adding at the end the fol-
7 lowing:

8 “(5) NATIONAL LABORATORY.—The term ‘Na-
9 tional Laboratory’ has the meaning given the term
10 in section 2 of the Energy Policy Act of 2005 (42
11 U.S.C. 15801).”.

12 (d) MATHEMATICS, SCIENCE, AND ENGINEERING
13 EDUCATION PROGRAMS.—The Department of Energy
14 Science Education Enhancement Act (42 U.S.C. 7381 et
15 seq.) is amended—

16 (1) by inserting after section 3162 the fol-
17 lowing:

18 **“Subpart A—Science Education Enhancement”;**

19 (2) in section 3169, by striking “part” and in-
20 serting “subpart”; and

21 (3) by adding at the end the following:

22 **“Subpart B—Mathematics, Science, and Engineering**
23 **Education Programs**

24 **“SEC. 3170. DEFINITIONS.**

25 “In this subpart:

1 “(1) DIRECTOR.—The term ‘Director’ means
2 the Director of Mathematics, Science, and Engineer-
3 ing Education.

4 “(2) NATIONAL LABORATORY.—The term ‘Na-
5 tional Laboratory’ has the meaning given the term
6 in section 2 of the Energy Policy Act of 2005 (42
7 U.S.C. 15801).

8 **“CHAPTER 1—ASSISTANCE FOR SPE-**
9 **cialty Schools for Mathematics**
10 **AND SCIENCE**

11 **“SEC. 3171. SPECIALTY SCHOOLS FOR MATHEMATICS AND**
12 **SCIENCE.**

13 “(a) PURPOSE.—The purpose of this section is to
14 provide assistance to States to establish or expand public,
15 statewide specialty secondary schools that provide com-
16 prehensive mathematics and science (including engineer-
17 ing) education to improve the academic achievement of
18 students in mathematics and science.

19 “(b) DEFINITION OF SPECIALTY SCHOOL FOR MATH-
20 EMATICS AND SCIENCE.—In this chapter, the term ‘spe-
21 cialty school for mathematics and science’ means a public
22 secondary school (including a school that provides residen-
23 tial services to students) that—

24 “(1) serves students residing in the State in
25 which the school is located; and

1 “(2) offers to those students a high-quality,
 2 comprehensive mathematics and science (including
 3 engineering) curriculum designed to improve the
 4 academic achievement of students in mathematics
 5 and science.

6 “(c) GRANTS AUTHORIZED.—

7 “(1) IN GENERAL.—From the amounts author-
 8 ized under subsection (i), the Secretary, acting
 9 through the Director, shall award grants, on a com-
 10 petitive basis, to States in order to provide assist-
 11 ance to the States for the costs of establishing or ex-
 12 panding public, statewide specialty schools for math-
 13 ematics and science.

14 “(2) RESOURCES.—The Director shall ensure
 15 that appropriate resources of the Department, in-
 16 cluding the National Laboratories, are available to
 17 schools funded under this section in order to—

18 “(A) increase experiential, hands-on learn-
 19 ing opportunities in mathematics and science
 20 for students attending such schools; and

21 “(B) provide ongoing professional develop-
 22 ment opportunities for teachers employed at
 23 such schools.

24 “(3) ASSISTANCE.—Consistent with sections
 25 3165 and 3166, the Director shall make available

1 necessary funds for a program using scientific and
 2 engineering staff of the National Laboratories, dur-
 3 ing which the staff—

4 “(A) assists teachers in teaching courses at
 5 the schools funded under this section;

6 “(B) uses National Laboratory scientific
 7 equipment in teaching the courses; and

8 “(C) uses distance education and other
 9 technologies to provide assistance described in
 10 subparagraphs (A) and (B) to schools funded
 11 under this section that are not located near the
 12 National Laboratories.

13 “(4) RESTRICTION.—No State shall receive
 14 funding for more than 1 specialty school for mathe-
 15 matics and science for a fiscal year.

16 “(d) FEDERAL AND NON-FEDERAL SHARES.—

17 “(1) FEDERAL SHARE.—The Federal share of
 18 the costs described in subsection (c)(1) shall not ex-
 19 ceed 50 percent.

20 “(2) NON-FEDERAL SHARE.—The non-Federal
 21 share of the costs described in subsection (c)(1) shall
 22 be—

23 “(A) not less than 50 percent; and

1 “(B) provided from non-Federal sources,
2 in cash or in kind, fairly evaluated, including
3 services.

4 “(e) APPLICATION.—Each State desiring a grant
5 under this section shall submit an application to the Direc-
6 tor at such time, in such manner, and accompanied by
7 such information as the Director may require that de-
8 scribes—

9 “(1) the process by which and selection criteria
10 with which the State will select and designate a
11 school as a specialty school for mathematics and
12 science in accordance with this section;

13 “(2) how the State will ensure that funds made
14 available under this section are used to establish or
15 expand a specialty school for mathematics and
16 science—

17 “(A) in accordance with the activities de-
18 scribed in subsection (g); and

19 “(B) that has the capacity to improve the
20 academic achievement of all students in all core
21 academic subjects, and particularly in mathe-
22 matics and science;

23 “(3) how the State will measure the extent to
24 which the school increases student academic achieve-

1 ment on State academic achievement standards in
2 mathematics and science;

3 “(4) the curricula and materials to be used in
4 the school;

5 “(5) the availability of funds from non-Federal
6 sources for the non-Federal share of the costs of the
7 activities authorized under this section; and

8 “(6) how the State will use technical assistance
9 and support from the Department, including the Na-
10 tional Laboratories, and other entities with experi-
11 ence and expertise in mathematics and science edu-
12 cation, including institutions of higher education.

13 “(f) DISTRIBUTION.—In awarding grants under this
14 section, the Director shall—

15 “(1) ensure a wide, equitable distribution
16 among States that propose to serve students from
17 urban and rural areas; and

18 “(2) provide equal consideration to States with-
19 out National Laboratories.

20 “(g) USES OF FUNDS.—

21 “(1) IN GENERAL.—A State that receives a
22 grant under this section shall use the funds made
23 available through the grant to—

1 “(A) employ proven strategies and meth-
 2 ods for improving student learning and teaching
 3 in mathematics and science;

4 “(B) integrate into the curriculum of the
 5 school comprehensive mathematics and science
 6 education, including instruction and assess-
 7 ments that are aligned with the State’s aca-
 8 demic content and student academic achieve-
 9 ment standards (within the meaning of section
 10 1111 of the Elementary and Secondary Edu-
 11 cation Act of 1965 (20 U.S.C. 6311)), class-
 12 room management, professional development,
 13 parental involvement, and school management;
 14 and

15 “(C) provide high-quality and continuous
 16 teacher and staff professional development.

17 “(2) SPECIAL RULE.—Grant funds under this
 18 section may be used for activities described in para-
 19 graph (1) only if the activities are directly related to
 20 improving student academic achievement in mathe-
 21 matics and science.

22 “(h) EVALUATION AND REPORT.—

23 “(1) STATE EVALUATION AND REPORT.—

24 “(A) EVALUATION.—Each State that re-
 25 ceives a grant under this section shall develop

1 and carry out an evaluation and accountability
2 plan for the activities funded through the grant
3 that measures the impact of the activities, in-
4 cluding measurable objectives for improved stu-
5 dent academic achievement on State mathe-
6 matics and science assessments.

7 “(B) REPORT.—The State shall submit to
8 the Director a report containing the results of
9 the evaluation and accountability plan.

10 “(2) REPORT TO CONGRESS.—Not later than 2
11 years after the date of enactment of the PACE–En-
12 ergy Act, the Director shall submit a report to the
13 appropriate committees of Congress detailing the im-
14 pact of the activities assisted with funds made avail-
15 able under this section.

16 “(i) AUTHORIZATION OF APPROPRIATIONS.—There
17 are authorized to be appropriated to carry out this sec-
18 tion—

19 “(1) \$10,000,000 for fiscal year 2007;

20 “(2) \$20,000,000 for fiscal year 2008;

21 “(3) \$30,000,000 for fiscal year 2009;

22 “(4) \$40,000,000 for fiscal year 2010; and

23 “(5) \$50,000,000 for fiscal year 2011.

1 **“CHAPTER 2—EXPERIENTIAL-BASED**
2 **LEARNING OPPORTUNITIES**

3 **“SEC. 3175. EXPERIENTIAL-BASED LEARNING OPPORTUNI-**
4 **TIES.**

5 “(a) INTERNSHIPS AUTHORIZED.—

6 “(1) IN GENERAL.—From the amounts author-
7 ized under subsection (f), the Secretary, acting
8 through the Director, shall establish a summer in-
9 ternship program for middle school and secondary
10 school students that shall—

11 “(A) provide the students with internships
12 at the National Laboratories; and

13 “(B) promote experiential, hands-on learn-
14 ing in mathematics or science.

15 “(2) RESIDENTIAL SERVICES.—The Director
16 may provide residential services to students partici-
17 pating in the Internship authorized under this chap-
18 ter.

19 “(b) SELECTION CRITERIA.—

20 “(1) IN GENERAL.—The Director shall establish
21 criteria to determine the sufficient level of academic
22 preparedness necessary for a student to be eligible
23 for an internship under this section.

24 “(2) PARTICIPATION.—The Director shall en-
25 sure the participation of students from a wide dis-

1 tribution of States, including States without Na-
2 tional Laboratories.

3 “(c) PRIORITY.—

4 “(1) IN GENERAL.—The Director shall give pri-
5 ority for an internship under this section to a stu-
6 dent who meets the eligibility criteria described in
7 subsection (b) and who attends a school—

8 “(A)(i) in which not less than 30 percent
9 of the children enrolled in the school are from
10 low-income families; or

11 “(ii) that is designated with a school locale
12 code of 6, 7, or 8, as determined by the Sec-
13 retary of Education; and

14 “(B) for which there is—

15 “(i) a high percentage of teachers who
16 are not teaching in the academic subject
17 areas or grade levels in which the teachers
18 were trained to teach;

19 “(ii) a high teacher turnover rate; or

20 “(iii) a high percentage of teachers
21 with emergency, provisional, or temporary
22 certification or licenses.

23 “(2) COORDINATION.—The Director shall con-
24 sult with the Secretary of Education in order to de-

1 termine whether a student meets the priority re-
2 quirements of this subsection.

3 “(d) OUTREACH AND EXPERIENTIAL-BASED PRO-
4 GRAMS FOR MINORITY STUDENTS.—

5 “(1) IN GENERAL.—The Secretary, acting
6 through the Director, in cooperation with Hispanic-
7 serving institutions, historically Black colleges and
8 universities, tribally controlled colleges and univer-
9 sities, Alaska Native- and Native Hawaiian-serving
10 institutions, and other minority-serving institutions
11 and nonprofit entities with substantial experience re-
12 lating to outreach and experiential-based learning
13 projects, shall establish outreach and experiential-
14 based learning programs that will encourage under-
15 represented minority students in kindergarten
16 through grade 12 to pursue careers in math, science,
17 and engineering.

18 “(2) COMMUNITY INVOLVEMENT.—The Sec-
19 retary shall ensure that the programs established
20 under paragraph (1) involve, to the maximum extent
21 practicable—

22 “(A) participation by parents and edu-
23 cators; and

1 “(B) the establishment of partnerships
2 with business organizations and appropriate
3 Federal, State, and local agencies.

4 “(3) DISTRIBUTION.—The Secretary shall en-
5 sure that the programs established under paragraph
6 (1) are located in diverse geographic regions of the
7 United States, to the maximum extent practicable.

8 “(e) EVALUATION AND ACCOUNTABILITY PLAN.—
9 The Director shall develop an evaluation and account-
10 ability plan for the activities funded under this chapter
11 that objectively measures the impact of the activities.

12 “(f) AUTHORIZATION OF APPROPRIATIONS.—There
13 is authorized to be appropriated to carry out this section
14 \$15,000,000 for each of fiscal years 2007 through 2011.

15 **“CHAPTER 3—NATIONAL LABORATORIES**
16 **CENTERS OF EXCELLENCE IN MATHE-**
17 **MATICS AND SCIENCE EDUCATION**

18 **“SEC. 3181. NATIONAL LABORATORIES CENTERS OF EXCEL-**
19 **LENCE IN MATHEMATICS AND SCIENCE EDU-**
20 **CATION.**

21 “(a) DEFINITION OF HIGH-NEED PUBLIC SEC-
22 ONDARY SCHOOL.—In this chapter, the term ‘high-need
23 public secondary school’ means a secondary school—

24 “(1) with a high concentration of low-income
25 individuals (as defined in section 1707 of the Ele-

1 mentary and Secondary Education Act of 1965 (20
2 U.S.C. 6537)); or

3 “(2) designated with a school locale code of 6,
4 7, or 8, as determined by the Secretary of Edu-
5 cation.

6 “(b) ESTABLISHMENT.—The Secretary shall estab-
7 lish at each of the National Laboratories a program to
8 support a Center of Excellence in Mathematics and
9 Science at 1 high-need public secondary school located in
10 the region of the National Laboratory to provide assist-
11 ance in accordance with subsection (f).

12 “(c) PARTNERSHIP.—Each high-need public sec-
13 ondary school selected as a Center of Excellence shall form
14 a partnership with a department that provides training for
15 teachers and principals at an institution of higher edu-
16 cation for purposes of compliance with subsection (g).

17 “(d) SELECTION.—

18 “(1) IN GENERAL.—The Secretary, acting
19 through the Director, shall establish criteria to guide
20 the National Laboratories in selecting the sites of
21 the Centers of Excellence.

22 “(2) PROCESS.—The National Laboratories
23 shall select the sites of the Centers of Excellence
24 through an open, widely publicized, and competitive
25 process.

1 “(e) GOALS.—The Secretary shall establish goals and
2 performance assessments for each Center of Excellence
3 authorized under subsection (b).

4 “(f) ASSISTANCE.—Consistent with sections 3165
5 and 3166, the Director shall make available necessary
6 funds for a program using scientific and engineering staff
7 of the National Laboratories, during which the staff—

8 “(1) assists teachers in teaching courses at the
9 Centers of Excellence in Mathematics and Science;
10 and

11 “(2) uses National Laboratory scientific equip-
12 ment in the teaching of the courses.

13 “(g) SPECIAL RULE.—Each Center of Excellence
14 shall ensure—

15 “(1) provision of clinical practicum, student
16 teaching, or internship experiences for math and
17 science teacher candidates as part of its teacher
18 preparation program;

19 “(2) provision of supervision and mentoring for
20 teacher candidates in the teacher preparation pro-
21 gram; and

22 “(3) to the maximum extent practicable, provi-
23 sion of professional development for veteran teachers
24 in the public secondary schools in the region.

1 “(h) EVALUATION.—The Secretary shall consider the
 2 results of performance assessments required under sub-
 3 section (e) in determining the contract award fee of a Na-
 4 tional Laboratory management and operations contractor.

5 “(i) PLAN.—The Director shall—

6 “(1) develop an evaluation and accountability
 7 plan for the activities funded under this chapter that
 8 objectively measures the impact of the activities; and

9 “(2) disseminate information obtained from
 10 those measurements.

11 “(j) NO EFFECT ON SIMILAR PROGRAMS.—Nothing
 12 in this section displaces or otherwise affects any similar
 13 program being carried out as of the date of enactment
 14 of this subpart at any National Laboratory under any
 15 other provision of law.

16 **“CHAPTER 4—SUMMER INSTITUTES**

17 **“SEC. 3185. SUMMER INSTITUTES.**

18 “(a) DEFINITIONS.—In this section:

19 “(1) ELIGIBLE PARTNER.—The term ‘eligible
 20 partner’ means—

21 “(A) the mathematics or science (including
 22 engineering) department at an institution of
 23 higher education, acting in coordination with a
 24 department at an institution of higher edu-

1 cation that provides training for teachers and
2 principals; or

3 “(B) a nonprofit entity with expertise in
4 providing professional development for mathe-
5 matics or science teachers.

6 “(2) SUMMER INSTITUTE.—The term ‘summer
7 institute’ means an institute, conducted during the
8 summer, that—

9 “(A) is conducted for a period of not less
10 than 2 weeks;

11 “(B) includes, as a component, a program
12 that provides direct interaction between stu-
13 dents and faculty, including personnel of 1 or
14 more National Laboratories who have scientific
15 expertise; and

16 “(C) provides for follow-up training, dur-
17 ing the academic year, that is conducted in the
18 classroom.

19 “(b) SUMMER INSTITUTE PROGRAMS AUTHOR-
20 IZED.—

21 “(1) PROGRAMS AT THE NATIONAL LABORA-
22 TORIES.—The Secretary, acting through the Direc-
23 tor, shall establish or expand programs of summer
24 institutes at each of the National Laboratories to
25 provide additional training to strengthen the mathe-

1 matics and science teaching skills of teachers em-
2 ployed at public schools for kindergarten through
3 grade 12, in accordance with the activities author-
4 ized under subsections (c) and (d).

5 “(2) PROGRAMS WITH ELIGIBLE PARTNERS.—

6 “(A) IN GENERAL.—The Secretary, acting
7 through the Director, shall identify and provide
8 assistance to eligible partners to establish or ex-
9 pand programs of summer institutes that pro-
10 vide additional training to strengthen the math-
11 ematics and science teaching skills of teachers
12 employed at public schools for kindergarten
13 through grade 12, in accordance with the activi-
14 ties authorized under subsections (c) and (d).

15 “(B) ASSISTANCE.—Consistent with sec-
16 tions 3165 and 3166, the Director shall make
17 available necessary funds for a program using
18 scientific and engineering staff of the National
19 Laboratories, during which the staff—

20 “(i) assists in providing training to
21 teachers at summer institutes; and

22 “(ii) uses National Laboratory sci-
23 entific equipment in the training.

24 “(C) LIMITATION OF AMOUNT.—To carry
25 out this paragraph, the Director may use not

1 more than 50 percent of the amounts author-
2 ized under subsection (h) for a fiscal year.

3 “(c) REQUIRED ACTIVITIES.—Each program author-
4 ized under subsection (b) shall—

5 “(1) create opportunities for enhanced and on-
6 going professional development for teachers that im-
7 proves the mathematics and science content knowl-
8 edge of such teachers;

9 “(2) include material pertaining to recent devel-
10 opments in mathematics and science pedagogy;

11 “(3) provide training on the use and integration
12 of technology in the classroom;

13 “(4) directly relate to the curriculum and aca-
14 demic areas in which the teachers provide instruc-
15 tion;

16 “(5) enhance the ability of the teachers to un-
17 derstand and use the challenging State academic
18 content standards for mathematics and science and
19 to select appropriate curricula;

20 “(6) train teachers to use curricula that are—

21 “(A) based on scientific research;

22 “(B) aligned with challenging State aca-
23 demic content standards; and

24 “(C) object-centered, experiment-oriented,
25 and concept- and content-based;

1 “(7) provide professional development activities,
2 including supplemental and follow-up activities; and

3 “(8) allow for the exchange of best practices
4 among the participants.

5 “(d) PERMISSIBLE ACTIVITIES.—A program author-
6 ized under subsection (b) may include—

7 “(1) a program that provides teachers with op-
8 portunities to work under the guidance of experi-
9 enced teachers and college faculty;

10 “(2) instruction in the use and integration of
11 data and assessments to inform and instruct class-
12 room practice; and

13 “(3) extended master teacher programs.

14 “(e) PRIORITY.—To the maximum extent practicable,
15 the Director shall ensure that each summer institute pro-
16 gram authorized under subsection (b) provides training
17 to—

18 “(1) teachers from a wide range of school dis-
19 tricts;

20 “(2) teachers from disadvantaged school dis-
21 tricts; and

22 “(3) teachers from groups underrepresented in
23 the fields of mathematics and science teaching, in-
24 cluding women and members of minority groups.

1 “(f) COORDINATION AND CONSULTATION.—The Di-
 2 rector shall consult and coordinate with the Secretary of
 3 Education and the Director of the National Science Foun-
 4 dation regarding the implementation of the programs au-
 5 thorized under subsection (b).

6 “(g) EVALUATION AND ACCOUNTABILITY PLAN.—

7 “(1) IN GENERAL.—The Director shall develop
 8 an evaluation and accountability plan for the activi-
 9 ties funded under this section that measures the im-
 10 pact of the activities.

11 “(2) CONTENTS.—The evaluation and account-
 12 ability plan shall include—

13 “(A) measurable objectives to increase the
 14 number of mathematics and science teachers
 15 who participate in the summer institutes in-
 16 volved; and

17 “(B) measurable objectives for improved
 18 student academic achievement on State mathe-
 19 matics and science assessments.

20 “(3) REPORT TO CONGRESS.—The Secretary
 21 shall submit to Congress with the annual budget
 22 submission of the Secretary a report on how the ac-
 23 tivities assisted under this section improve the math-
 24 ematics and science teaching skills of participating
 25 teachers.

1 “(h) AUTHORIZATION OF APPROPRIATIONS.—There
 2 are authorized to be appropriated to carry out this sec-
 3 tion—

4 “(1) \$15,000,000 for fiscal year 2007;

5 “(2) \$25,000,000 for fiscal year 2008;

6 “(3) \$40,000,000 for fiscal year 2009;

7 “(4) \$50,000,000 for fiscal year 2010; and

8 “(5) \$75,000,000 for fiscal year 2011.

9 **“CHAPTER 5—NUCLEAR SCIENCE**

10 **EDUCATION**

11 **“SEC. 3191. NUCLEAR SCIENCE TALENT EXPANSION PRO-**

12 **GRAM FOR INSTITUTIONS OF HIGHER EDU-**

13 **CATION.**

14 “(a) PURPOSES.—The purposes of this section are—

15 “(1) to address the decline in the number of
 16 and resources available to nuclear science programs
 17 of institutions of higher education; and

18 “(2) to increase the number of graduates with
 19 degrees in nuclear science, an area of strategic im-
 20 portance to the economic competitiveness and energy
 21 security of the United States.

22 “(b) DEFINITION OF NUCLEAR SCIENCE.—In this
 23 section, the term ‘nuclear science’ includes—

24 “(1) nuclear science;

25 “(2) nuclear engineering;

1 “(3) nuclear chemistry;

2 “(4) radio chemistry; and

3 “(5) health physics.

4 “(c) ESTABLISHMENT.—The Secretary, acting
5 through the Director, shall establish in accordance with
6 this section a program to expand and enhance institution
7 of higher education nuclear science educational capabili-
8 ties.

9 “(d) NUCLEAR SCIENCE PROGRAM EXPANSION
10 GRANTS FOR INSTITUTIONS OF HIGHER EDUCATION.—

11 “(1) IN GENERAL.—The Secretary, acting
12 through the Director, shall award up to 3 competi-
13 tive grants for each fiscal year to institutions of
14 higher education that establish new academic degree
15 programs in nuclear science.

16 “(2) ELIGIBILITY.—To be eligible for a grant
17 under this subsection, an applicant shall partner
18 with a National Laboratory or other eligible nuclear-
19 related entity, as determined by the Secretary.

20 “(3) CRITERIA.—Criteria for a grant awarded
21 under this subsection shall be based on—

22 “(A) the potential to attract new students
23 to the program;

24 “(B) academic rigor; and

1 “(C) the ability to offer hands-on learning
2 opportunities.

3 “(4) DURATION AND AMOUNT.—

4 “(A) DURATION.—A grant under this sub-
5 section shall be 5 years in duration.

6 “(B) AMOUNT.—An institution of higher
7 education that receives a grant under this sub-
8 section shall be eligible for up to \$1,000,000 for
9 each year of the grant period.

10 “(5) USE OF FUNDS.—An institution of higher
11 education that receives a grant under this subsection
12 may use the grant to—

13 “(A) recruit and retain new faculty;

14 “(B) develop core and specialized course
15 content;

16 “(C) encourage collaboration between fac-
17 ulty and researchers in the nuclear science field;
18 or

19 “(D) support outreach efforts to recruit
20 students.

21 “(e) NUCLEAR SCIENCE COMPETITIVENESS GRANTS
22 FOR INSTITUTIONS OF HIGHER EDUCATION.—

23 “(1) IN GENERAL.—The Secretary, acting
24 through the Director shall award up to 10 competi-
25 tive grants for each fiscal year to institutions of

1 higher education with existing academic degree pro-
2 grams that produce graduates in nuclear science.

3 “(2) CRITERIA.—Criteria for a grant awarded
4 under this subsection shall be based on the potential
5 for increasing the number and academic quality of
6 graduates in the nuclear sciences who enter into ca-
7 reers in nuclear-related fields.

8 “(3) DURATION AND AMOUNT.—

9 “(A) DURATION.—A grant under this sub-
10 section shall be 5 years in duration.

11 “(B) AMOUNT.—An institution of higher
12 education that receives a grant under this sub-
13 section shall be eligible for up to \$500,000 for
14 each year of the grant period.

15 “(4) USE OF FUNDS.—An institution of higher
16 education that receives a grant under this subsection
17 may use the grant to—

18 “(A) increase the number of graduates in
19 nuclear science that enter into careers in the
20 nuclear science field;

21 “(B) enhance the teaching of advanced nu-
22 clear technologies;

23 “(C) aggressively pursue collaboration op-
24 portunities with industry and National Labora-
25 tories;

1 “(D) bolster or sustain nuclear infrastruc-
 2 ture and research facilities of the institution of
 3 higher education, such as research and training
 4 reactors or laboratories; and

5 “(E) provide tuition assistance and sti-
 6 pends to undergraduate and graduate students.

7 “(f) AUTHORIZATION OF APPROPRIATIONS.—

8 “(1) NUCLEAR SCIENCE PROGRAM EXPANSION
 9 GRANTS FOR INSTITUTIONS OF HIGHER EDU-
 10 CATION.—There are authorized to be appropriated
 11 to carry out subsection (d)—

12 “(A) \$3,000,000 for fiscal year 2007;

13 “(B) \$9,000,000 for fiscal year 2008;

14 “(C) \$13,000,000 for fiscal year 2009;

15 “(D) \$18,000,000 for fiscal year 2010;

16 and

17 “(E) \$22,500,000 for fiscal year 2011.

18 “(2) NUCLEAR SCIENCE COMPETITIVENESS
 19 GRANTS FOR INSTITUTIONS OF HIGHER EDU-
 20 CATION.—There are authorized to be appropriated
 21 to carry out subsection (e)—

22 “(A) \$5,000,000 for fiscal year 2007;

23 “(B) \$11,000,000 for fiscal year 2008;

24 “(C) \$16,500,000 for fiscal year 2009;

1 “(D) \$22,000,000 for fiscal year 2010;

2 and

3 “(E) \$27,500,000 for fiscal year 2011.”.

4 **SEC. 2004. DEPARTMENT OF ENERGY EARLY-CAREER RE-**
5 **SEARCH GRANTS.**

6 (a) PURPOSE.—It is the purpose of this section to
7 authorize research grants in the Department for early-ca-
8 reer scientists and engineers for purposes of pursuing
9 independent research.

10 (b) DEFINITION OF ELIGIBLE EARLY-CAREER RE-
11 SEARCHER.—In this section, the term “eligible early-ca-
12 reer researcher” means an individual who—

13 (1) completed a doctorate or other terminal de-
14 gree not more than 10 years before the date of ap-
15 plication for a grant authorized under this section,
16 except as provided in subsection (c)(3); and

17 (2) has demonstrated promise in the field of
18 science, technology, engineering, mathematics, com-
19 puter science, or computational science.

20 (c) GRANT PROGRAM AUTHORIZED.—

21 (1) IN GENERAL.—The Secretary shall award
22 not less than 65 grants per year to outstanding eli-
23 gible early-career researchers to support the work of
24 such researchers in the Department, particularly at

1 the National Laboratories, or other federally-funded
2 research and development centers.

3 (2) APPLICATION.—An eligible early-career re-
4 searcher who desires to receive a grant under this
5 section shall submit to the Secretary an application
6 at such time, in such manner, and accompanied by
7 such information as the Secretary may require.

8 (3) WAIVER.—The Secretary may find eligible a
9 candidate who has completed a doctorate more than
10 10 years prior to the date of application if the can-
11 didate was unable to conduct research for a period
12 of time because of extenuating circumstances, in-
13 cluding military service or family responsibilities.

14 (4) DURATION AND AMOUNT.—

15 (A) DURATION.—A grant under this sec-
16 tion shall be 5 years in duration.

17 (B) AMOUNT.—An eligible early career-re-
18 searcher who receives a grant under this section
19 shall receive up to \$100,000 for each year of
20 the grant period.

21 (5) USE OF FUNDS.—An eligible early career-
22 researcher who receives a grant under this section
23 shall use the grant funds for basic research in nat-
24 ural sciences, engineering, mathematics, or computer
25 sciences at the Department, particularly the Na-

1 tional Laboratories, or other federally-funded re-
 2 search and development center.

3 (6) AUTHORIZATION OF APPROPRIATIONS.—

4 There are authorized to be appropriated to carry out
 5 this section—

6 (A) \$6,500,000 for fiscal year 2007;

7 (B) \$13,000,000 for fiscal year 2008;

8 (C) \$19,500,000 for fiscal year 2009;

9 (D) \$26,000,000 for fiscal year 2010; and

10 (E) \$32,500,000 for fiscal year 2011.

11 **SEC. 2005. ADVANCED RESEARCH PROJECTS AUTHORITY-**

12 **ENERGY.**

13 (a) DEFINITIONS.—In this section:

14 (1) ADVISORY BOARD.—The term “Advisory
 15 Board” means the Advisory Board established under
 16 subsection (d).

17 (2) AUTHORITY.—The term “Authority” means
 18 the Advanced Research Projects Authority—Energy
 19 established under subsection (b).

20 (3) DIRECTOR.—The term “Director” means
 21 the Director of the Authority appointed under sub-
 22 section (c)(1).

23 (4) ENERGY TECHNOLOGY.—The term “energy
 24 technology” means technology, including carbon-neu-
 25 tral technology, used for—

- 1 (A) fossil energy;
- 2 (B) carbon sequestration;
- 3 (C) nuclear energy;
- 4 (D) renewable energy;
- 5 (E) energy distribution; or
- 6 (F) energy efficiency technology.

7 (b) ESTABLISHMENT.—The Secretary shall establish
8 an Advanced Research Projects Authority-Energy to over-
9 come the long-term and high-risk technological barriers in
10 the development of energy technologies.

11 (c) DIRECTOR.—

12 (1) APPOINTMENT.—The Secretary shall ap-
13 point a Director of the Authority.

14 (2) QUALIFICATIONS.—The Director shall be an
15 individual who, by reason of professional background
16 and experience, is especially qualified to advise the
17 Secretary on matters pertaining to long-term, high-
18 risk programs to overcome long-term and high-risk
19 technological barriers to the development of energy
20 technologies.

21 (3) DUTIES.—The Director shall—

22 (A) employ such qualified technical staff as
23 are necessary to carry out the duties of the Au-
24 thority, including providing staff for the Advi-
25 sory Committee;

1 (B) serve as the selection official for pro-
 2 posals relating to energy technologies that are
 3 solicited within the Department;

4 (C) develop metrics to assist in developing
 5 funding criteria and for assessing the success of
 6 existing programs;

7 (D) terminate programs carried out under
 8 this section that are not achieving the goals of
 9 the programs; and

10 (E) perform such duties relating to long-
 11 term and high-risk technological barriers in the
 12 development of energy technologies as are de-
 13 termined to be appropriate by the Secretary.

14 (d) ADVISORY BOARD.—

15 (1) APPOINTMENT.—The Secretary shall, con-
 16 sistent with the Federal Advisory Committee Act (5
 17 U.S.C. App.), establish, and appoint members to, an
 18 Advisory Board to make recommendations to the
 19 Secretary and the Director on actions necessary to
 20 carry out this section.

21 (2) QUALIFICATIONS.—The Advisory Board
 22 shall consist of individuals who, by reason of profes-
 23 sional background and experience, are especially
 24 qualified to advise the Secretary and the Director on
 25 matters pertaining to long-term and high-risk tech-

1 nological barriers in the development of energy tech-
2 nologies.

3 (3) TERM.—A member of the Advisory Board
4 shall be appointed for a term of 5 years.

5 (4) INFORMATION.—Each fiscal year, individ-
6 uals who carry out energy technology programs of
7 the Department and staff of the Authority shall pro-
8 vide to the Advisory Board written proposals and
9 oral briefings on long-term and high-risk techno-
10 logical barriers that are critical to overcome for the
11 successful development of energy technologies.

12 (5) DUTIES.—Each fiscal year, the Advisory
13 Board shall—

14 (A) recommend to the Secretary and the
15 Director—

16 (i) in order of priority, proposals of
17 energy programs of the Department that
18 are critical to overcoming long-term and
19 high-risk technological barriers to enable
20 the successful development of energy tech-
21 nologies; and

22 (ii) additional programs not covered in
23 the proposals that are critical to over-
24 coming the barriers described in clause (i);
25 and

1 (B) based on the metrics described in sub-
 2 section (c)(3)(C), make recommendations to the
 3 Secretary and the Directory concerning whether
 4 programs funded under this section are achiev-
 5 ing the goals of the programs.

6 (e) REVIEW.—Not later than 1 year after the date
 7 of enactment of this Act, the Secretary shall enter into
 8 an agreement with the National Academy of Sciences
 9 under which the Academy shall—

10 (1) conduct reviews during each of calendar
 11 years 2009 and 2011 to determine the success of the
 12 activities carried out under this section; and

13 (2) submit to Congress, the Secretary, and the
 14 Director a report describing the results of each re-
 15 view.

16 (f) AUTHORIZATION OF APPROPRIATIONS.—There
 17 are authorized to be appropriated such sums as are nec-
 18 essary to carry out this section for each of fiscal years
 19 2007 through 2011.

20 **SEC. 2006. AUTHORIZATION OF APPROPRIATIONS FOR THE**
 21 **DEPARTMENT OF ENERGY FOR BASIC RE-**
 22 **SEARCH.**

23 Section 971(b) of the Energy Policy Act of 2005 (42
 24 U.S.C. 16311(b)) is amended—

1 (1) in paragraph (2), by striking “and” at the
2 end;

3 (2) in paragraph (3)—

4 (A) by striking “\$5,200,000,000” and in-
5 serting “\$4,800,000,000”; and

6 (B) by striking the period at the end and
7 inserting a semicolon; and

8 (3) by adding at the end the following:

9 “(4) \$4,945,000,000 for fiscal year 2010; and

10 “(5) \$5,265,000,000 for fiscal year 2011.”.

11 **SEC. 2007. DISCOVERY SCIENCE AND ENGINEERING INNO-**
12 **VATION INSTITUTES.**

13 (a) IN GENERAL.—The Secretary shall establish dis-
14 tributed, multidisciplinary institutes (referred to in this
15 section as “Institutes”) centered at National Laboratories
16 to apply fundamental science and engineering discoveries
17 to technological innovations related to the missions of the
18 Department and the global competitiveness of the United
19 States.

20 (b) TOPICAL AREAS.—The Institutes shall support
21 scientific and engineering research and education activities
22 on critical emerging technologies determined by the Sec-
23 retary to be essential to global competitiveness, including
24 activities related to—

25 (1) sustainable energy technologies;

- 1 (2) multi-scale materials and processes;
- 2 (3) micro- and nano-engineering;
- 3 (4) computational and information engineering;
- 4 and
- 5 (5) genomics and proteomics.

6 (c) PARTNERSHIPS.—In carrying out this section, the
 7 Secretary shall establish partnerships between the Insti-
 8 tutes and—

- 9 (1) institutions of higher education to—
 - 10 (A) train undergraduate and graduate en-
 11 gineering and science students;
 - 12 (B) develop innovative educational cur-
 13 ricula; and
 - 14 (C) conduct research within the topical
 15 areas described in subsection (b);
- 16 (2) private industry to develop innovative tech-
 17 nologies within the topical areas described in sub-
 18 section (b);
- 19 (3) State and local governments to promote re-
 20 gionally-based commercialization and entrepreneur-
 21 ship; and
- 22 (4) financing entities to guide successful tech-
 23 nology commercialization.

1 (d) MERIT-BASED SELECTION.—The selection of In-
 2 stitutes under this section shall be merit-based and made
 3 through an open, competitive selection process.

4 (e) RESTRICTION.—Not more than 3 Institutes shall
 5 receive grants for a fiscal year.

6 (f) REVIEW.—The Secretary shall enter into an
 7 agreement with the National Academy of Sciences under
 8 which the Academy shall, not later than 3 and 6 years
 9 after the date of enactment of this Act—

10 (1) review the performance of the Institutes
 11 under this section; and

12 (2) submit to Congress and the Secretary a re-
 13 port describing the results of the review.

14 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
 15 authorized to be appropriated to carry out the activities
 16 of each Institute selected under this section \$10,000,000
 17 for each of fiscal years 2007 through 2011.

18 **SEC. 2008. PROTECTING AMERICA'S COMPETITIVE EDGE**

19 **(PACE) GRADUATE FELLOWSHIP PROGRAM.**

20 (a) DEFINITION OF ELIGIBLE STUDENT.—In this
 21 section, the term “eligible student” means a student who
 22 attends an institution of higher education that offers a
 23 doctoral degree in a field relevant to a mission area of
 24 the Department.

1 (b) ESTABLISHMENT.—The Secretary shall establish
2 a graduate fellowship program for eligible students pur-
3 suing a doctoral degree in a mission area of the Depart-
4 ment.

5 (c) SELECTION.—

6 (1) IN GENERAL.—The Secretary shall award
7 fellowships to eligible students under this section
8 through a competitive merit review process (involv-
9 ing written and oral interviews) that will result in a
10 wide distribution of awards throughout the United
11 States.

12 (2) CRITERIA.—The Secretary shall establish
13 selection criteria for awarding fellowships under this
14 section that require an eligible student to—

15 (A) pursue a field of science or engineering
16 of importance to the mission area of the De-
17 partment;

18 (B) rank in the upper 10 percent of the
19 class of the eligible student;

20 (C) demonstrate to the Secretary—

21 (i) the capacity to understand tech-
22 nical topics related to the fellowship that
23 can be derived from the first principles of
24 the technical topics;

25 (ii) imagination and creativity;

1 (iii) leadership skills in organizations
 2 or intellectual endeavors, demonstrated
 3 through awards and past experience; and

4 (iv) excellent verbal and communica-
 5 tion skills to explain, defend, and dem-
 6 onstrate an understanding of technical
 7 subjects related to the fellowship; and

8 (D) be a citizen or legal permanent resi-
 9 dent of the United States.

10 (d) AWARDS.—

11 (1) AMOUNT.—A fellowship awarded under this
 12 section shall—

13 (A) provide an annual living stipend; and

14 (B) cover—

15 (i) graduate tuition at an institution
 16 of higher education; and

17 (ii) incidental expenses associated
 18 with curricula and research at the institu-
 19 tion of higher education (including books,
 20 computers and software).

21 (2) DURATION.—A fellowship awarded under
 22 this section shall be for a period of not greater than
 23 5 years.

24 (3) PORTABILITY.—A fellowship awarded under
 25 this section shall be portable with the fellow.

1 (e) ADMINISTRATION.—The Secretary (acting
2 through the Director of Mathematics, Science, and Engi-
3 neering Education)—

4 (1) shall administer the program established
5 under this section; and,

6 (2) may enter into a contract with a nonprofit
7 entity to administer the program, including the se-
8 lection and award of fellowships.

9 (f) AUTHORIZATION OF APPROPRIATIONS.—

10 (1) FELLOWSHIPS.—There are authorized to be
11 appropriated to award fellowships under this sec-
12 tion—

13 (A) \$4,500,000 for 100 fellowships for fis-
14 cal year 2007;

15 (B) \$9,300,000 for 200 fellowships for fis-
16 cal year 2008 (including non-expiring fellow-
17 ships for the prior fiscal year);

18 (C) \$14,500,000 for 300 fellowships for
19 fiscal year 2009 (including non-expiring fellow-
20 ships for prior fiscal years);

21 (D) \$25,000,000 for 500 fellowships for
22 fiscal year 2010 (including non-expiring fellow-
23 ships for prior fiscal years); and

1 (E) \$35,500,000 for 700 fellowships for
2 fiscal year 2011 (including non-expiring fellow-
3 ships for prior fiscal years).

4 (2) ADMINISTRATION.—There are authorized to
5 be appropriated for administrative expenses incurred
6 in carrying out this section—

7 (A) \$1,000,000 for fiscal year 2007;

8 (B) \$1,000,000 for fiscal year 2008;

9 (C) \$1,500,000 for fiscal year 2009;

10 (D) \$2,500,000 for fiscal year 2010; and

11 (E) \$3,500,000 for fiscal year 2011.

12 **SEC. 2009. TITLE IX COMPLIANCE.**

13 (a) IN GENERAL.—Not later than 180 days after the
14 date of enactment of this Act, the Secretary of Energy
15 shall submit to the Committee on Energy and Commerce
16 of the House of Representatives and the Committee on
17 Energy and Natural Resources of the Senate a report that
18 describes actions taken by the Department of Energy to
19 implement the recommendations in the report of the Gov-
20 ernment Accountability Office numbered 04–639.

21 (b) COMPLIANCE.—To comply with title IX of the
22 Education Amendments of 1972 (20 U.S.C. 1681 et seq.),
23 the Secretary of Energy shall annually conduct compliance
24 reviews of at least 2 recipients of Department of Energy
25 grants.

1 **SEC. 2010. HIGH-RISK, HIGH-REWARD RESEARCH.**

2 (a) DEFINITION OF HIGH-RISK, HIGH-REWARD RE-
3 SEARCH.—In this section, the term “high-risk, high re-
4 ward research” means research that—

5 (1) has the potential for yielding results with
6 far-ranging implications;

7 (2) is too novel or spans too diverse a range of
8 disciplines to fare well in the traditional peer review
9 process; and

10 (3) is supportive of the missions of the spon-
11 soring agency.

12 (b) ESTABLISHMENT OF GRANT PROGRAMS.—

13 (1) ENERGY GRANT PROGRAM.—The Secretary
14 shall establish a grant program to encourage the
15 conduct of high-risk, high-reward research at the
16 Department.

17 (2) GEOLOGICAL GRANT PROGRAM.—The Direc-
18 tor of the United States Geological Survey shall es-
19 tablish a grant program to encourage the conduct of
20 high-risk, high-reward research at the United States
21 Geological Survey.

22 **SEC. 2011. DISTINGUISHED SCIENTIST PROGRAM.**

23 (a) PURPOSE.—The purpose of this section is to pro-
24 mote scientific and academic excellence through collabora-
25 tions between institutions of higher education and the Na-
26 tional Laboratories.

1 (b) ESTABLISHMENT.—The Secretary shall establish
2 a program to support the joint appointment of distin-
3 guished scientists by institutions of higher education and
4 National Laboratories.

5 (c) QUALIFICATIONS.—Successful candidates under
6 this section shall be persons who, by reason of professional
7 background and experience, are able to bring international
8 recognition to the appointing institution of higher edu-
9 cation and National Laboratory in their field of scientific
10 endeavor.

11 (d) SELECTION.—A distinguished scientist appointed
12 under this section shall be selected through an open, com-
13 petitive process.

14 (e) APPOINTMENT.—

15 (1) INSTITUTION OF HIGHER EDUCATION.—An
16 appointment by an institution of higher education
17 under this section shall be filled within the tenure al-
18 lotment of the institution of higher education at a
19 minimum rank of professor.

20 (2) NATIONAL LABORATORY.—An appointment
21 by a National Laboratory under this section shall be
22 at the rank of the highest grade of distinguished sci-
23 entist or technical staff of the National Laboratory.

1 (f) DURATION.—An appointment under this section
2 shall be for 6 years, consisting of 2 3-year funding allot-
3 ments.

4 (g) USE OF FUNDS.—Funds made available under
5 this section may be used for—

6 (1) the salary of the distinguished scientist and
7 support staff;

8 (2) undergraduate, graduate, and post-doctoral
9 appointments;

10 (3) research-related equipment;

11 (4) professional travel; and

12 (5) such other requirements as the Director de-
13 termines are necessary to carry out the purpose of
14 the program.

15 (h) REVIEW.—

16 (1) IN GENERAL.—The appointment of a distin-
17 guished scientist under this section shall be reviewed
18 at the end of the first 3-year allotment for the dis-
19 tinguished scientist through an open peer-review
20 process to determine whether the appointment is
21 meeting the purpose of this section under subsection
22 (a).

23 (2) FUNDING.—Funding of the appointment of
24 the distinguished scientist for the second 3-year al-

1 lotment shall be determined based on the review con-
 2 ducted under paragraph (1).

3 (i) COST SHARING.—To be eligible for assistance
 4 under this section, an appointing institution of higher edu-
 5 cation shall pay at least 50 percent of the total costs of
 6 the appointment.

7 (j) AUTHORIZATION OF APPROPRIATIONS.—There
 8 are authorized to be appropriated to carry out this sec-
 9 tion—

10 (1) \$15,000,000 for fiscal year 2007 (to sup-
 11 port up to 15 appointments under this section);

12 (2) \$30,000,000 for fiscal year 2008 (to sup-
 13 port up to 30 such appointments);

14 (3) \$60,000,000 for fiscal year 2009 (to sup-
 15 port up to 60 such appointments); and

16 (4) \$100,000,000 for each of fiscal years 2010
 17 through 2011 (to support up to 100 such appoint-
 18 ments).

19 **DIVISION C—EDUCATION**

20 **SEC. 3001. FINDINGS.**

21 Congress makes the following findings:

22 (1) A well-educated population is essential to
 23 retaining America's competitiveness in the global
 24 economy.

1 (2) The United States needs to build on and ex-
2 pand the impact of existing programs by taking ad-
3 ditional, well-coordinated steps to ensure that all
4 students are able to obtain the knowledge the stu-
5 dents need to obtain postsecondary education and
6 participate successfully in the workforce or the
7 Armed Forces.

8 (3) The next steps must be informed by inde-
9 pendent information on the effectiveness of current
10 programs in science, technology, engineering, and
11 mathematics education, and by identification of best
12 practices that can be replicated.

13 (4) Teacher preparation and elementary school
14 and secondary school programs and activities must
15 be aligned with the requirements of the Elementary
16 and Secondary Education Act of 1965 (20 U.S.C.
17 6301 et seq.) and the requirements of the Higher
18 Education Act of 1965 (20 U.S.C. 1001 et seq.).

19 (5) The ever increasing knowledge and skill de-
20 mands of the 21st century require that secondary
21 school preparation and requirements be better
22 aligned with the knowledge and skills needed to suc-
23 ceed in postsecondary education and the workforce,
24 and States need better data systems to track edu-

1 cational achievement from prekindergarten through
 2 baccalaureate degrees.

3 **SEC. 3002. DEFINITIONS.**

4 (a) ESEA DEFINITIONS.—Unless otherwise specified
 5 in this division, the terms used in this division have the
 6 meanings given the terms in section 9101 of the Elemen-
 7 tary and Secondary Education Act of 1965 (20 U.S.C.
 8 7801).

9 (b) OTHER DEFINITIONS.—In this division:

10 (1) CRITICAL FOREIGN LANGUAGE.—The term
 11 “critical foreign language” means a foreign language
 12 that the Secretary determines, in consultation with
 13 the heads of such Federal departments and agencies
 14 as the Secretary determines appropriate, is critical
 15 to the national security and economic competitive-
 16 ness of the United States.

17 (2) SECRETARY.—The term “Secretary” means
 18 the Secretary of Education.

19 **TITLE I—TEACHER ASSISTANCE**
 20 **Subtitle A—Teachers for a**
 21 **Competitive Tomorrow**

22 **SEC. 3111. PURPOSE.**

23 The purpose of this subtitle is—

24 (1) to develop and implement programs to pro-
 25 vide integrated courses of study in mathematics,

1 science, engineering, or critical foreign languages,
 2 and teacher education, that lead to a baccalaureate
 3 degree with concurrent teacher certification; and

4 (2) to develop and implement 2- or 3-year part-
 5 time master's degree programs in mathematics,
 6 science, or critical foreign language education for
 7 teachers in order to enhance the teachers' content
 8 knowledge and pedagogical skills.

9 **SEC. 3112. DEFINITIONS.**

10 In this subtitle:

11 (1) CHILDREN FROM LOW-INCOME FAMILIES.—

12 The term “children from low-income families”
 13 means children described in section 1124(c)(1)(A) of
 14 the Elementary and Secondary Education Act of
 15 1965 (20 U.S.C. 6333(c)(1)(A)).

16 (2) ELIGIBLE RECIPIENT.—The term “eligible
 17 recipient” means an institution of higher education
 18 that receives grant funds under this subtitle on be-
 19 half of a department of mathematics, engineering,
 20 science, or critical foreign language for use in car-
 21 rying out activities assisted under this subtitle.

22 (3) HIGH-NEED LOCAL EDUCATIONAL AGEN-
 23 CY.—The term “high-need local educational agency”
 24 means a local educational agency or educational
 25 service agency—

1 (A)(i) that serves not fewer than 10,000
2 children from low-income families;

3 (ii) for which not less than 20 percent of
4 the children served by the agency are children
5 from low-income families; or

6 (iii) with a total of less than 600 students
7 in average daily attendance at the schools that
8 are served by the agency and all of whose
9 schools are designated with a school locale code
10 of 6, 7, or 8, as determined by the Secretary;
11 and

12 (B)(i) for which there is a high percentage
13 of teachers providing instruction in academic
14 subject areas or grade levels for which the
15 teachers are not highly qualified; or

16 (ii) for which there is a high teacher turn-
17 over rate or a high percentage of teachers with
18 emergency, provisional, or temporary certifi-
19 cation or licensure.

20 (4) HIGHLY QUALIFIED.—The term “highly
21 qualified” has the meaning given such term in sec-
22 tion 9101 of the Elementary and Secondary Edu-
23 cation Act of 1965 (20 U.S.C. 7801) and, with re-
24 spect to special education teachers, in section 602 of

1 the Individuals with Disabilities Education Act (20
2 U.S.C. 1401).

3 (5) PARTNERSHIP.—The term “partnership”
4 means a partnership that—

5 (A) shall include—

6 (i) an eligible recipient;

7 (ii) a department within the eligible
8 recipient that provides a program of study
9 in mathematics, engineering, science, or
10 critical foreign languages;

11 (iii)(I) a school or department within
12 the eligible recipient that provides a teach-
13 er preparation program; or

14 (II) a 2-year institution of higher edu-
15 cation that has a teacher preparation offer-
16 ing or a dual enrollment program with the
17 eligible recipient; and

18 (iv) not less than 1 high-need local
19 educational agency and a public school or
20 a consortium of public schools served by
21 the agency; and

22 (B) may include a nonprofit organization
23 that has the capacity to provide expertise or
24 support to meet the purposes of this subtitle.

1 (6) TEACHING SKILLS.—The term “teaching
2 skills” means the ability to—

3 (A) increase student achievement;

4 (B) effectively convey and explain academic
5 subject matter;

6 (C) employ strategies that—

7 (i) are based on scientifically based re-
8 search;

9 (ii) are specific to academic subject
10 matter; and

11 (iii) focus on the identification of, and
12 tailoring of academic instruction to, stu-
13 dents’ specific learning needs, particularly
14 children with disabilities, students who are
15 limited English proficient, and students
16 who are gifted and talented;

17 (D) conduct ongoing assessment of student
18 learning;

19 (E) effectively manage a classroom; and

20 (F) communicate and work with parents
21 and guardians, and involve parents and guard-
22 ians in their children’s education.

1 **SEC. 3113. PROGRAMS FOR BACCALAUREATE DEGREES IN**
2 **MATHEMATICS, SCIENCE, ENGINEERING, OR**
3 **CRITICAL FOREIGN LANGUAGES, WITH CON-**
4 **CURRENT TEACHER CERTIFICATION.**

5 (a) PROGRAM AUTHORIZED.—From the amounts
6 made available to carry out this section under section
7 3116(1) and not reserved under section 3115(d) for a fis-
8 cal year, the Secretary is authorized to award grants, on
9 a competitive basis, to eligible recipients to enable partner-
10 ships served by the eligible recipients to develop and imple-
11 ment programs to provide courses of study in mathe-
12 matics, science, engineering, or critical foreign languages
13 that—

14 (1) are integrated with teacher education; and
15 (2) lead to a baccalaureate degree with concur-
16 rent teacher certification.

17 (b) APPLICATION.—Each eligible recipient desiring a
18 grant under this section shall submit an application to the
19 Secretary at such time and in such manner as the Sec-
20 retary may require. Each application shall—

21 (1) describe the program for which assistance is
22 sought;
23 (2) describe how a department of mathematics,
24 science, engineering, or a critical foreign language
25 participating in the partnership will ensure signifi-
26 cant collaboration with a teacher preparation pro-

1 gram in the development of undergraduate degrees
2 in mathematics, science, engineering, or a critical
3 foreign language, with concurrent teacher certifi-
4 cation, including providing student teaching and
5 other clinical classroom experiences;

6 (3) describe the high-quality research, labora-
7 tory, or internship experiences, integrated with
8 coursework, that will be provided under the pro-
9 gram;

10 (4) describe how members of groups that are
11 underrepresented in the teaching of mathematics,
12 science, or critical foreign languages will be encour-
13 aged to participate in the program;

14 (5) describe how program participants will be
15 encouraged to teach in schools determined by the
16 partnership to be most in need, and what assistance
17 in finding employment in such schools will be pro-
18 vided;

19 (6) describe the ongoing activities and services
20 that will be provided to graduates of the program;

21 (7) describe how the activities of the partner-
22 ship will be coordinated with any activities funded
23 through other Federal grants, and how the partner-
24 ship will continue the activities assisted under the
25 program when the grant period ends;

1 (8) describe how the partnership will assess the
2 content knowledge and teaching skills of the pro-
3 gram participants; and

4 (9) provide any other information the Secretary
5 may reasonably require.

6 (c) AUTHORIZED ACTIVITIES.—

7 (1) IN GENERAL.—Each eligible recipient re-
8 ceiving a grant under this section shall use the grant
9 funds to enable a partnership to develop and imple-
10 ment a program to provide courses of study in math-
11 ematics, science, engineering, or a critical foreign
12 language that—

13 (A) are integrated with teacher education
14 programs that promote effective teaching skills;
15 and

16 (B) lead to a baccalaureate degree in
17 mathematics, science, engineering, or a critical
18 foreign language with concurrent teacher cer-
19 tification.

20 (2) PROGRAM REQUIREMENTS.—The program
21 shall—

22 (A) provide high-quality research, labora-
23 tory, or internship experiences for program par-
24 ticipants;

1 (B) provide student teaching or other clin-
2 ical classroom experiences that—

3 (i) are integrated with coursework;
4 and

5 (ii) lead to the participants' ability to
6 demonstrate effective teaching skills;

7 (C) if implementing a program in which
8 program participants are prepared to teach
9 mathematics or science courses, include strate-
10 gies for improving student literacy;

11 (D) encourage the participation of individ-
12 uals who are members of groups that are
13 underrepresented in the teaching of mathe-
14 matics, science or critical foreign languages;

15 (E) encourage participants to teach in
16 schools determined by the partnership to be
17 most in need, and actively assist the partici-
18 pants in finding employment in such schools;

19 (F) offer training in the use of and inte-
20 gration of educational technology;

21 (G) collect data regarding and evaluate,
22 using measurable objectives and benchmarks,
23 the extent to which the program succeeded in—

24 (i) increasing the percentage of highly
25 qualified mathematics, science, or critical

foreign language teachers, including increasing the percentage of such teachers teaching in those schools determined by the partnership to be most in need;

(ii) improving student academic achievement in mathematics and science;

(iii) increasing the number of students in secondary schools enrolled in upper level mathematics and science courses; and

(iv) increasing the numbers of elementary school, middle school, and secondary school students enrolled in and continuing in critical foreign language courses;

(H) collect data on the employment placement of all graduates of the program, including information on how many graduates are teaching and in what kinds of schools;

(I) provide ongoing activities and services to graduates of the program who teach elementary school, middle school, or secondary school, by—

(i) keeping the graduates informed of the latest developments in their respective academic fields; and

1 (ii) supporting the graduates of the
 2 program who are employed in schools in
 3 the local educational agency participating
 4 in the partnership during the initial years
 5 of teaching through—

6 (I) induction programs;

7 (II) promotion of effective teach-
 8 ing skills; and

9 (III) providing opportunities for
 10 regular professional development; and

11 (J) develop recommendations to improve
 12 the teacher preparation program participating
 13 in the partnership.

14 (d) ANNUAL REPORT.—Each eligible recipient receiv-
 15 ing a grant under this section shall collect and report to
 16 the Secretary annually such information as the Secretary
 17 may reasonably require, including—

18 (1) the number of participants in the program;

19 (2) information on the academic majors of par-
 20 ticipating students;

21 (3) the race, gender, income, and disability sta-
 22 tus of program participants;

23 (4) the employment placement of program par-
 24 ticipants as teachers in schools determined by the
 25 partnership to be most in need;

1 (5) the extent to which the program succeeded
2 in meeting the objectives and benchmarks described
3 in subsection (c)(2)(G); and

4 (6) the data collected under subparagraphs (G)
5 and (H) of subsection (c)(2).

6 (e) TECHNICAL ASSISTANCE.—From the funds made
7 available under section 3116(1), the Secretary may pro-
8 vide technical assistance to an eligible recipient developing
9 a baccalaureate degree program with concurrent teacher
10 certification, including technical assistance provided
11 through a grant or contract awarded on a competitive
12 basis to an institution of higher education or a technical
13 assistance center.

14 **SEC. 3114. PROGRAMS FOR MASTER'S DEGREES IN MATHE-**
15 **MATICS, SCIENCE, OR CRITICAL FOREIGN**
16 **LANGUAGES EDUCATION.**

17 (a) PROGRAM AUTHORIZED.—From the amounts
18 made available to carry out this section under section
19 3116(2) and not reserved under section 3115(d) for a fis-
20 cal year, the Secretary is authorized to award grants, on
21 a competitive basis, to eligible recipients to enable the
22 partnerships served by the eligible recipients to develop
23 and implement 2- or 3-year part-time master's degree pro-
24 grams in mathematics, science, or critical foreign language

1 education for teachers in order to enhance the teacher's
2 content knowledge and teaching skills.

3 (b) APPLICATION.—Each eligible recipient desiring a
4 grant under this section shall submit an application to the
5 Secretary at such time and in such manner as the Sec-
6 retary may require. Each application shall describe—

7 (1) how a department of mathematics, science,
8 or a critical foreign language will ensure significant
9 collaboration with a teacher preparation program in
10 the development of master's degree programs in
11 mathematics, science, or a critical foreign language
12 for teachers that enhance the teachers' content
13 knowledge and teaching skills;

14 (2) the role of the local educational agency in
15 the partnership in developing and administering the
16 program and how feedback from the local edu-
17 cational agency, school, and participants will be used
18 to improve the program;

19 (3) how the program will help increase the per-
20 centage of highly qualified mathematics, science, or
21 critical foreign language teachers, including increas-
22 ing the percentage of such teachers teaching in
23 schools determined by the partnership to be most in
24 need;

25 (4) how the program will—

1 (A) improve student academic achievement
2 in mathematics and science and increase the
3 number of students taking upper-level courses
4 in such subjects; or

5 (B) increase the numbers of elementary
6 school, middle school, and secondary school stu-
7 dents enrolled and continuing in critical foreign
8 language courses;

9 (5) how the program will prepare teachers to
10 become more effective mathematics, science, or crit-
11 ical foreign language teachers;

12 (6) how the program will prepare teachers to
13 assume leadership roles in their schools;

14 (7) how teachers who are members of groups
15 that are underrepresented in the teaching of mathe-
16 matics, science, or critical foreign languages and
17 teachers from schools determined by the partnership
18 to be most in need will be encouraged to apply for
19 and participate in the program;

20 (8) the ongoing activities and services that will
21 be provided to graduates of the program;

22 (9) how the partnership will continue the activi-
23 ties assisted under the grant when the grant period
24 ends; and

1 (10) how the partnership will assess, during the
2 program, the content knowledge and teaching skills
3 of teachers participating in the program.

4 (c) AUTHORIZED ACTIVITIES.—Each eligible recipi-
5 ent receiving a grant under this section shall use the grant
6 funds to develop and implement a 2- or 3-year part-time
7 master’s degree program in mathematics, science, or crit-
8 ical foreign language education for teachers in order to
9 enhance the teachers’ content knowledge and teaching
10 skills. The program shall—

11 (1) promote effective teaching skills so the
12 teachers participating in the program become more
13 effective mathematics, science, or critical foreign lan-
14 guage teachers;

15 (2) prepare teachers to assume leadership roles
16 in their schools by participating in activities such as
17 teacher mentoring, development of curricula that in-
18 tegrate state of the art applications of mathematics
19 and science into the classroom, working with school
20 administrators in establishing in-service professional
21 development of teachers, and assisting in evaluating
22 data and assessments to improve student academic
23 achievement;

1 (3) use high-quality research, laboratory, or in-
2 ternship experiences for program participants that
3 are integrated with coursework;

4 (4) provide student teaching or clinical class-
5 room experience;

6 (5) if implementing a program in which partici-
7 pants are prepared to teach mathematics or science
8 courses, provide strategies for improving student lit-
9 eracy;

10 (6) align the content knowledge in the master's
11 degree program with challenging student academic
12 achievement standards and challenging academic
13 content standards established by the State in which
14 the program is conducted;

15 (7) encourage the participation of—

16 (A) individuals who are members of groups
17 that are underrepresented in the teaching of
18 mathematics, science, or critical foreign lan-
19 guages; and

20 (B) teachers teaching in schools deter-
21 mined by the partnership to be most in need;

22 (8) offer tuition assistance, based on need, as
23 appropriate; and

24 (9) evaluate and report on the impact of the
25 program, in accordance with subsection (d).

1 (d) EVALUATION AND REPORT.—Each eligible recipi-
2 ent receiving a grant under this section shall evaluate,
3 using measurable objectives and benchmarks, and provide
4 an annual report to the Secretary regarding, the extent
5 to which the program assisted under this section suc-
6 ceeded in increasing the following:

7 (1) The number and percentage of mathe-
8 matics, science, or critical foreign language teachers
9 who have a master's degree and meet 1 or more of
10 the following requirements:

11 (A) Are teaching in schools determined by
12 the partnership to be most in need, and taught
13 in such schools prior to participation in the pro-
14 gram.

15 (B) Are teaching in schools determined by
16 the partnership to be most in need, and did not
17 teach in such schools prior to participation in
18 the program.

19 (C) Are members of a group underrep-
20 resented in the teaching of mathematics,
21 science, or a critical foreign language.

22 (2) The retention of teachers who participate in
23 the program.

1 **SEC. 3115. GENERAL PROVISIONS.**

2 (a) DURATION OF GRANTS.—The Secretary shall
3 award each grant under this subtitle for a period of not
4 more than 5 years.

5 (b) MATCHING REQUIREMENT.—Each eligible recipi-
6 ent that receives a grant under this section shall provide,
7 from non-Federal sources, an amount equal to 50 percent
8 of the amount of the grant (which may be provided in cash
9 or in kind) to carry out the activities supported by the
10 grant.

11 (c) SUPPLEMENT, NOT SUPPLANT.—Grant funds
12 provided under this subtitle shall be used to supplement,
13 and not supplant, other Federal or State funds.

14 (d) EVALUATION.—From amounts made available for
15 any fiscal year under section 3116, the Secretary shall re-
16 serve such sums as may be necessary—

17 (1) to provide for the conduct of an annual
18 independent evaluation, by grant or by contract, of
19 the activities assisted under this subtitle, which shall
20 include an assessment of the impact of the activities
21 on student academic achievement; and

22 (2) to prepare and submit an annual report on
23 the results of the evaluation described in paragraph
24 (1) to the Committee on Health, Education, Labor,
25 and Pensions of the Senate, the Committee on Edu-
26 cation and the Workforce of the House of Rep-

1 representatives, and the Committees on Appropriations
 2 of the Senate and House of Representatives.

3 **SEC. 3116. AUTHORIZATION OF APPROPRIATIONS.**

4 There are authorized to be appropriated to carry out
 5 this section \$180,000,000 for fiscal year 2007,
 6 \$210,000,000 for fiscal year 2008, and such sums as may
 7 be necessary for each of the 3 succeeding fiscal years, of
 8 which—

9 (1)(A) 55.5 percent shall be available to carry
 10 out section 3113 for fiscal year 2007; and

11 (B) 57.1 percent shall be available to carry out
 12 section 3113 for fiscal year 2008 and each suc-
 13 ceeding fiscal year; and

14 (2)(A) 44.5 percent shall be available to carry
 15 out section 3114 for fiscal year 2007; and

16 (B) 42.9 percent shall be available to carry out
 17 section 3114 for fiscal year 2008 and each suc-
 18 ceeding fiscal year.

19 **Subtitle B—Advanced Placement**
 20 **and International Baccalaureate**
 21 **Programs**

22 **SEC. 3121. PURPOSE.**

23 It is the purpose of this subtitle—

24 (1) to raise academic achievement through Ad-
 25 vanced Placement and International Baccalaureate

1 programs by increasing, by 70,000, over a 5-year pe-
2 riod beginning in 2007, the number of teachers serv-
3 ing high-need schools who are qualified to teach Ad-
4 vanced Placement or International Baccalaureate
5 courses in mathematics, science, and critical foreign
6 languages;

7 (2) to increase, to 700,000 per year, the num-
8 ber of students attending high-need schools who—

9 (A) take and score a 3, 4, or 5 on an Ad-
10 vanced Placement examination in mathematics,
11 science, or a critical foreign language adminis-
12 tered by the College Board; or

13 (B) achieve a passing score on an examina-
14 tion administered by the International Baccalaureate
15 Organization in such a subject;

16 (3) to increase the availability of, and enroll-
17 ment in, Advanced Placement or International Bac-
18 calaureate courses in mathematics, science, and crit-
19 ical foreign languages, and pre-Advanced Placement
20 or pre-International Baccalaureate courses in such
21 subjects, in high-need schools; and

22 (4) to support statewide efforts to increase the
23 availability of, and enrollment in, Advanced Place-
24 ment or International Baccalaureate courses in
25 mathematics, science, and critical foreign languages,

1 and pre-Advanced Placement or pre-International
 2 Baccalaureate courses in such subjects, in high-need
 3 schools.

4 **SEC. 3122. DEFINITIONS.**

5 In this subtitle:

6 (1) **ADVANCED PLACEMENT OR INTERNATIONAL**
 7 **BACCALAUREATE COURSE.**—The term “Advanced
 8 Placement or International Baccalaureate course”
 9 means a course of college-level instruction provided
 10 to middle or secondary school students, terminating
 11 in an examination administered by the College
 12 Board or the International Baccalaureate Organiza-
 13 tion, or another such examination approved by the
 14 Secretary.

15 (2) **ELIGIBLE ENTITY.**—The term “eligible enti-
 16 ty” means—

17 (A) a State educational agency;

18 (B) a local educational agency; or

19 (C) a partnership consisting of—

20 (i) a national, regional, or statewide
 21 nonprofit organization, with expertise and
 22 experience in providing Advanced Place-
 23 ment or International Baccalaureate serv-
 24 ices; and

1 (ii) a State educational agency or
2 local educational agency.

3 (3) LOW-INCOME STUDENT.—The term “low-in-
4 come student” has the meaning given the term “low-
5 income individual” in section 1707(3) of the Ele-
6 mentary and Secondary Education Act of 1965 (20
7 U.S.C. 6537(3)).

8 (4) HIGH CONCENTRATION OF LOW-INCOME
9 STUDENTS.—The term “high concentration of low-
10 income students” has the meaning given the term in
11 section 1707(2) of the Elementary and Secondary
12 Education Act of 1965 (20 U.S.C. 6537(2)).

13 (5) HIGH-NEED LOCAL EDUCATIONAL AGEN-
14 CY.—The term “high-need local educational agency”
15 means a local educational agency or educational
16 service agency described in 3112(3)(A).

17 (6) HIGH-NEED SCHOOL.—The term “high-need
18 school” means a middle school or secondary school—

19 (A) with a pervasive need for Advanced
20 Placement or International Baccalaureate
21 courses in mathematics, science, or critical for-
22 eign languages, or for additional Advanced
23 Placement or International Baccalaureate
24 courses in such a subject; and

1 (B)(i) with a high concentration of low-in-
 2 come students; or

3 (ii) designated with a school locale code of
 4 6, 7 or 8, as determined by the Secretary.

5 **SEC. 3123. ADVANCED PLACEMENT AND INTERNATIONAL**
 6 **BACCALAUREATE PROGRAMS.**

7 (a) PROGRAM AUTHORIZED.—From the amounts ap-
 8 propriated under subsection (l), the Secretary is author-
 9 ized to award grants, on a competitive basis, to eligible
 10 entities to enable the eligible entities to carry out the au-
 11 thorized activities described in subsection (g).

12 (b) DURATION OF GRANTS.—The Secretary may
 13 award grants under this section for a period of not more
 14 than 5 years.

15 (c) COORDINATION.—The Secretary shall coordinate
 16 the activities carried out under this section with the activi-
 17 ties carried out under section 1705 of the Elementary and
 18 Secondary Education Act of 1965 (20 U.S.C. 6535).

19 (d) PRIORITY.—In awarding grants under this sec-
 20 tion, the Secretary shall give priority to eligible entities
 21 that are part of a statewide strategy for increasing the
 22 availability of Advanced Placement or International Bac-
 23 calaureate courses in mathematics, science, and critical
 24 foreign languages, and pre-Advanced Placement or pre-

1 International Baccalaureate courses in such subjects, in
 2 high-need schools.

3 (e) EQUITABLE DISTRIBUTION.—The Secretary, to
 4 the extent practicable, shall—

5 (1) ensure an equitable geographic distribution
 6 of grants under this section among the States; and

7 (2) promote an increase in participation in Ad-
 8 vanced Placement or International Baccalaureate
 9 mathematics, science, and critical foreign language
 10 courses and examinations in all States.

11 (f) APPLICATION.—

12 (1) IN GENERAL.—Each eligible entity desiring
 13 a grant under this section shall submit an applica-
 14 tion to the Secretary at such time, in such manner,
 15 and containing such information as the Secretary
 16 may reasonably require.

17 (2) CONTENTS.—The application shall, at a
 18 minimum, include a description of—

19 (A) the goals and objectives for the
 20 project, including—

21 (i) increasing the number of teachers
 22 serving high-need schools who are qualified
 23 to teach Advanced Placement or Inter-
 24 national Baccalaureate courses in mathe-

1 matics, science, or critical foreign lan-
 2 guages;

3 (ii) increasing the number of qualified
 4 teachers serving high-need schools who are
 5 teaching Advanced Placement or Inter-
 6 national Baccalaureate courses in mathe-
 7 matics, science, or critical foreign lan-
 8 guages to students in the high-need
 9 schools;

10 (iii) increasing the number of Ad-
 11 vanced Placement or International Bacca-
 12 laureate courses in mathematics, science,
 13 and critical foreign languages that are
 14 available to students attending high-need
 15 schools; and

16 (iv) increasing the number of students
 17 attending a high-need school, particularly
 18 low-income students, who enroll in and
 19 pass—

20 (I) Advanced Placement or Inter-
 21 national Baccalaureate courses in
 22 mathematics, science, or critical for-
 23 eign languages; and

24 (II) pre-Advanced Placement or
 25 pre-International Baccalaureate

1 courses in such a subject (where pro-
2 vided in accordance with subpara-
3 graph (B));

4 (B) how the eligible entity will ensure that
5 students have access to courses, including pre-
6 Advanced Placement and pre-International Bac-
7 calaureate courses, that will prepare the stu-
8 dents to enroll and succeed in Advanced Place-
9 ment or International Baccalaureate courses in
10 mathematics, science, or critical foreign lan-
11 guages;

12 (C) how the eligible entity will provide pro-
13 fessional development for teachers assisted
14 under this section;

15 (D) how the eligible entity will ensure that
16 teachers serving high-need schools are qualified
17 to teach Advanced Placement or International
18 Baccalaureate courses in mathematics, science,
19 or critical foreign languages;

20 (E) how the eligible entity will provide for
21 the involvement of business and community or-
22 ganizations and other entities, including institu-
23 tions of higher education, in the activities to be
24 assisted; and

1 (F) how the eligible entity will use funds
 2 received under this section, including how the
 3 eligible entity will evaluate the success of its
 4 project.

5 (g) AUTHORIZED ACTIVITIES.—

6 (1) IN GENERAL.—Each eligible entity that re-
 7 ceives a grant under this section shall use the grant
 8 funds to carry out activities designed to increase—

9 (A) the number of qualified teachers serv-
 10 ing high-need schools who are teaching Ad-
 11 vanced Placement or International Bacca-
 12 laureate courses in mathematics, science, or
 13 critical foreign languages; and

14 (B) the number of students attending
 15 high-need schools who enroll in, and pass, the
 16 examinations for such Advanced Placement or
 17 International Baccalaureate courses.

18 (2) PERMISSIVE ACTIVITIES.—The activities de-
 19 scribed in paragraph (1) may include—

20 (A) teacher professional development, in
 21 order to expand the pool of teachers in the par-
 22 ticipating State, local educational agency, or
 23 high-need school who are qualified to teach Ad-
 24 vanced Placement or International Bacca-

1 laureate courses in mathematics, science, or
2 critical foreign languages;

3 (B) pre-Advanced Placement or pre-Inter-
4 national Baccalaureate course development and
5 professional development;

6 (C) coordination and articulation between
7 grade levels to prepare students to enroll and
8 succeed in Advanced Placement or International
9 Baccalaureate courses in mathematics, science,
10 or critical foreign languages;

11 (D) purchase of instructional materials;

12 (E) activities to increase the availability of,
13 and participation in, online Advanced Place-
14 ment or International Baccalaureate courses in
15 mathematics, science, and critical foreign lan-
16 guages;

17 (F) reimbursing low-income students at-
18 tending high-need schools for part or all of the
19 cost of Advanced Placement or International
20 Baccalaureate examination fees;

21 (G) carrying out subsection (j), relating to
22 collecting and reporting data;

23 (H) in the case of a State educational
24 agency that receives a grant under this section,
25 awarding subgrants to local educational agen-

1 cies to enable the local educational agencies to
 2 carry out authorized activities described in sub-
 3 paragraphs (A) through (G); and

4 (I) providing salary increments or bonuses
 5 to teachers serving high-need schools who—

6 (i) become qualified to teach, and
 7 teach, Advanced Placement or Inter-
 8 national Baccalaureate courses in mathe-
 9 matics, science, or a critical foreign lan-
 10 guage; or

11 (ii) increase the number of low-income
 12 students, who take Advanced Placement or
 13 International Baccalaureate examinations
 14 in mathematics, science, or a critical for-
 15 eign language with the goal of successfully
 16 passing such examinations.

17 (h) MATCHING REQUIREMENT.—

18 (1) IN GENERAL.—Subject to paragraph (2),
 19 each eligible entity that receives a grant under this
 20 section shall provide, toward the cost of the activities
 21 assisted under the grant, from non-Federal sources,
 22 an amount equal to 200 percent of the amount of
 23 the grant, except that an eligible entity that is a
 24 high-need local educational agency shall provide an

1 amount equal to not more than 100 percent of the
2 amount of the grant.

3 (2) WAIVER.—The Secretary may waive all or
4 part of the matching requirement described in para-
5 graph (1) for any fiscal year for an eligible entity
6 described in subparagraph (A) or (B) of section
7 3122(2), if the Secretary determines that applying
8 the matching requirement to such eligible entity
9 would result in serious hardship or an inability to
10 carry out the authorized activities described in sub-
11 section (g).

12 (i) SUPPLEMENT NOT SUPPLANT.—Grant funds pro-
13 vided under this section shall be used to supplement, not
14 supplant, other Federal and non-Federal funds available
15 to carry out the activities described in subsection (g).

16 (j) COLLECTING AND REPORTING REQUIREMENTS.—

17 (1) REPORT.—Each eligible entity receiving a
18 grant under this section shall collect and report to
19 the Secretary annually such data on the results of
20 the grant as the Secretary may reasonably require,
21 including data regarding—

22 (A) the number of students enrolling in
23 Advanced Placement or International Baccalaureate
24 courses in mathematics, science, or a
25 critical foreign language, and pre-Advanced

1 Placement or pre-International Baccalaureate
2 courses in such a subject, and the distribution
3 of grades those students receive;

4 (B) the number of students taking Ad-
5 vanced Placement or International Bacca-
6 laureate examinations in mathematics, science,
7 or a critical foreign language, and the distribu-
8 tion of scores on those examinations;

9 (C) the number of teachers receiving train-
10 ing in teaching Advanced Placement or Inter-
11 national Baccalaureate courses in mathematics,
12 science, or a critical foreign language who will
13 be teaching such courses in the next school
14 year;

15 (D) the number of teachers becoming
16 qualified to teach Advanced Placement or Inter-
17 national Baccalaureate courses in mathematics,
18 science, or a critical foreign language; and

19 (E) the number of qualified teachers who
20 are teaching Advanced Placement or Inter-
21 national Baccalaureate courses in mathematics,
22 science, or critical foreign languages to students
23 in a high-need school.

1 (2) REPORTING OF DATA.—Each eligible entity
2 receiving a grant under this section shall report data
3 required under paragraph (1)—

4 (A) disaggregated by subject area;

5 (B) in the case of student data,
6 disaggregated in the same manner as informa-
7 tion is disaggregated under section
8 1111(h)(1)(C)(i) of the Elementary and Sec-
9 ondary Education Act of 1965 (20 U.S.C.
10 6311(h)(1)(C)(i)); and

11 (C) to the extent feasible, in a manner that
12 allows comparison of conditions before, during,
13 and after the project.

14 (k) EVALUATION AND REPORT.—From the amount
15 made available for any fiscal year under subsection (l),
16 the Secretary shall reserve such sums as may be nec-
17 essary—

18 (1) to conduct an annual independent evalua-
19 tion, by grant or by contract, of the program carried
20 out under this section, which shall include an assess-
21 ment of the impact of the program on student aca-
22 demic achievement; and

23 (2) to prepare and submit an annual report on
24 the results of the evaluation described in paragraph
25 (1) to the Committee on Health, Education, Labor,

1 and Pensions of the Senate, the Committee on Edu-
 2 cation and the Workforce of the House of Rep-
 3 resentatives, and the Committees on Appropriations
 4 of the Senate and House of Representatives.

5 (l) AUTHORIZATION OF APPROPRIATIONS.—There
 6 are authorized to be appropriated to carry out this section
 7 \$58,000,000 for each of the fiscal years 2007 and 2008,
 8 and such sums as may be necessary for each of the 3 suc-
 9 ceeding fiscal years.

10 **TITLE II—MATH NOW**

11 **SEC. 3201. MATH NOW FOR ELEMENTARY SCHOOL AND MID-** 12 **DLE SCHOOL STUDENTS PROGRAM.**

13 (a) PURPOSE.—The purpose of this section is to en-
 14 able all students to reach or exceed grade-level academic
 15 achievement standards and to prepare the students to en-
 16 roll in and pass algebra courses by—

17 (1) improving instruction in mathematics for
 18 students in kindergarten through grade 9 through
 19 the implementation of mathematics programs and
 20 the support of comprehensive mathematics initiatives
 21 that are based on the best available evidence of ef-
 22 fectiveness; and

23 (2) providing targeted help to low-income stu-
 24 dents who are struggling with mathematics and
 25 whose achievement is significantly below grade level.

1 (b) DEFINITION OF ELIGIBLE LOCAL EDUCATIONAL
2 AGENCY.—In this section, the term “eligible local edu-
3 cational agency” means a high-need local educational
4 agency (as defined in section 3112(3)) serving 1 or more
5 schools—

6 (1) with significant numbers or percentages of
7 students whose mathematics skills are below grade
8 level;

9 (2) that are not making adequate yearly
10 progress in mathematics under section 1111(b)(2) of
11 the Elementary and Secondary Education Act of
12 1965 (20 U.S.C. 6311(b)(2)); or

13 (3) in which students are receiving instruction
14 in mathematics from teachers who do not have
15 mathematical content knowledge or expertise in the
16 teaching of mathematics.

17 (c) PROGRAM AUTHORIZED.—

18 (1) IN GENERAL.—From the amounts appro-
19 priated under subsection (k) for any fiscal year, the
20 Secretary is authorized to award grants, on a com-
21 petitive basis, for not more than 5 years, to State
22 educational agencies to enable the State educational
23 agencies to award grants to eligible local educational
24 agencies to carry out the activities described in sub-
25 section (e).

1 (2) PRIORITY.—In awarding grants under this
2 section, the Secretary shall give priority to applica-
3 tions for projects that will implement statewide
4 strategies for improving mathematics instruction
5 and raising the mathematics achievement of stu-
6 dents, particularly students in grades 4 through 8.

7 (d) STATE USES OF FUNDS.—

8 (1) IN GENERAL.—Each State educational
9 agency that receives a grant under this section for
10 a fiscal year—

11 (A) shall expend not more than a total of
12 10 percent of the grant funds to carry out the
13 activities described in paragraphs (2) or (3) for
14 the fiscal year; and

15 (B) shall use not less than 90 percent of
16 the grant funds to award grants, on a competi-
17 tive basis, to eligible local educational agencies
18 to enable the eligible local educational agencies
19 to carry out the activities described in sub-
20 section (e) for the fiscal year.

21 (2) MANDATORY USES OF FUNDS.—A State
22 educational agency shall use the grant funds made
23 available under paragraph (1)(A) to carry out each
24 of the following activities:

1 (A) PLANNING AND ADMINISTRATION.—

2 Planning and administration, including—

3 (i) evaluating applications from eligi-
4 ble local educational agencies using peer
5 review teams described in subsection
6 (f)(1)(D);

7 (ii) administering the distribution of
8 grants to eligible local educational agen-
9 cies; and

10 (iii) assessing and evaluating, on a
11 regular basis, eligible local educational
12 agency activities assisted under this sec-
13 tion, with respect to whether the activities
14 have been effective in increasing the num-
15 ber of children—

16 (I) making progress toward meet-
17 ing grade-level mathematics achieve-
18 ment; and

19 (II) meeting or exceeding grade-
20 level mathematics achievement.

21 (B) REPORTING.—Annually providing the
22 Secretary with a report on the implementation
23 of this section as described in subsection (i).

24 (3) PERMISSIVE USE OF FUNDS; TECHNICAL
25 ASSISTANCE.—

1 (A) IN GENERAL.—A State educational
2 agency may use the grant funds made available
3 under paragraph (1)(A) for 1 or more of the
4 following technical assistance activities that as-
5 sist an eligible local educational agency, upon
6 request by the eligible local educational agency,
7 in accomplishing the tasks required to design
8 and implement a project under this section, in-
9 cluding assistance in—

10 (i) selecting and implementing a pro-
11 gram of mathematics instruction, or mate-
12 rials and interventions, based on the best
13 available evidence of effectiveness;

14 (ii) evaluating and selecting diagnostic
15 and classroom based instructional mathe-
16 matics assessments; and

17 (iii) identifying eligible professional
18 development providers to conduct the pro-
19 fessional development activities described
20 in subsection (e)(1)(B).

21 (B) GUIDANCE.—The technical assistance
22 described in subparagraph (A) shall be guided
23 by researchers with expertise in the pedagogy of
24 mathematics, mathematicians, and mathematics

1 educators from high-risk, high-achievement
2 schools and eligible local educational agencies.

3 (e) LOCAL USES OF FUNDS.—

4 (1) MANDATORY USES OF FUNDS.—Each eligi-
5 ble local educational agency receiving a grant under
6 this section shall use the grant funds to carry out
7 each of the following activities:

8 (A) To implement mathematics instruc-
9 tional materials and interventions (including in-
10 tensive and systematic instruction)—

11 (i) for students in the grades of a par-
12 ticipating school as identified in the appli-
13 cation submitted under subsection
14 (f)(2)(A); and

15 (ii) that are based on the best avail-
16 able evidence of effectiveness.

17 (B) To provide professional development
18 and instructional leadership activities for teach-
19 ers and, if appropriate, for administrators and
20 other school staff, on the implementation of
21 comprehensive mathematics initiatives de-
22 signed—

23 (i) to improve the achievement of stu-
24 dents performing significantly below grade
25 level;

1 (ii) to improve the mathematical con-
 2 tent knowledge of the teachers, administra-
 3 tors, and other school staff;

4 (iii) to increase the use of effective in-
 5 structional practices; and

6 (iv) to monitor student progress.

7 (C) To conduct continuous progress moni-
 8 toring, which may include the adoption and use
 9 of assessments that—

10 (i) measure student progress and
 11 identify areas in which students need help
 12 in learning mathematics; and

13 (ii) reflect mathematics content that
 14 is consistent with State academic achieve-
 15 ment standards in mathematics described
 16 in section 1111(b) of the Elementary and
 17 Secondary Education Act of 1965 (20
 18 U.S.C. 6311(b)).

19 (2) PERMISSIVE USES OF FUNDS.—An eligible
 20 local educational agency may use grant funds under
 21 this section to—

22 (A) adopt and use mathematics instruc-
 23 tional materials and assessments;

1 (B) implement classroom-based assess-
2 ments, including diagnostic or formative assess-
3 ments;

4 (C) provide remedial coursework and inter-
5 ventions for students, which may be provided
6 before or after school;

7 (D) provide small groups with individual-
8 ized instruction in mathematics;

9 (E) conduct activities designed to improve
10 the content knowledge and expertise of teach-
11 ers, such as the use of a mathematics coach,
12 enrichment activities, and interdisciplinary
13 methods of mathematics instruction; and

14 (F) collect and report performance data.

15 (f) APPLICATIONS.—

16 (1) STATE EDUCATIONAL AGENCY.—Each State
17 educational agency desiring a grant under this sec-
18 tion shall submit an application to the Secretary at
19 such time and in such manner as the Secretary may
20 require. Each application shall include—

21 (A) an assurance that the core mathe-
22 matics instructional materials or program, sup-
23 plemental instructional materials, and interven-
24 tion programs used by the eligible local edu-
25 cational agencies for the project, are based on

1 the best available evidence of effectiveness and
2 are aligned with State academic achievement
3 standards;

4 (B) an assurance that eligible local edu-
5 cational agencies will meet the requirements de-
6 scribed in paragraph (2);

7 (C) an assurance that local applications
8 will be evaluated using a peer review process;
9 and

10 (D) a description of the qualifications of
11 the peer review teams, which shall consist of—

12 (i) researchers with expertise in the
13 pedagogy of mathematics;

14 (ii) mathematicians; and

15 (iii) mathematics educators serving
16 high-risk, high-achievement schools and eli-
17 gible local educational agencies.

18 (2) ELIGIBLE LOCAL EDUCATIONAL AGENCY.—

19 Each eligible local educational agency desiring a
20 grant under this section shall submit an application
21 to the State educational agency at such time and in
22 such manner as the State educational agency may
23 require. Each application shall include—

1 (A) an assurance that the eligible local
2 educational agency will provide assistance to 1
3 or more schools that are—

4 (i) served by the eligible local edu-
5 cational agency; and

6 (ii) described in section 3201(b);

7 (B) a description of the grades kinder-
8 garten through grade 9, and of the schools, that
9 will be served;

10 (C) information, on an aggregate basis, on
11 each school to be served by the project, includ-
12 ing such demographic, socioeconomic, and
13 mathematics achievement data as the State
14 educational agency may request;

15 (D) a description of the core mathematics
16 instructional materials or program, supple-
17 mental instructional materials, and intervention
18 programs or strategies that will be used for the
19 project, including an assurance that the pro-
20 grams or strategies and materials are based on
21 the best available evidence of effectiveness and
22 are aligned with State academic achievement
23 standards;

24 (E) a description of the activities that will
25 be carried out under the grant, including a de-

1 description of the professional development that
 2 will be provided to teachers, and, if appropriate,
 3 administrators and other school staff, and a de-
 4 scription of how the activities will support
 5 achievement of the purpose of this section;

6 (F) an assurance that the eligible local
 7 educational agency will report to the State edu-
 8 cational agency all data on student academic
 9 achievement that is necessary for the State edu-
 10 cational agency's report under subsection (i);

11 (G) a description of the eligible entity's
 12 plans for evaluating the impact of professional
 13 development and leadership activities in mathe-
 14 matics on the content knowledge and expertise
 15 of teachers, administrators, or other school
 16 staff; and

17 (H) any other information the State edu-
 18 cational agency may reasonably require.

19 (g) PROHIBITION ON ENDORSEMENT OF CUR-
 20 RICULUM.—

21 (1) IN GENERAL.—In implementing this sec-
 22 tion, the Secretary shall not—

23 (A) endorse, approve, or sanction any
 24 mathematics curriculum designed for use in any
 25 school; or

1 (B) engage in oversight, technical assist-
2 ance, or activities that will require the adoption
3 of a specific mathematics program or instruc-
4 tional materials by a State, local educational
5 agency, or school.

6 (2) RULE OF CONSTRUCTION.—Nothing in this
7 title shall be construed to authorize or permit the
8 Department of Education, or a Department of Edu-
9 cation contractor, to mandate, direct, control, or
10 suggest the selection of a mathematics curriculum,
11 supplemental instructional materials, or program of
12 instruction by a State, local educational agency, or
13 school.

14 (h) MATCHING REQUIREMENTS.—

15 (1) STATE EDUCATIONAL AGENCY.—A State
16 educational agency that receives a grant under this
17 section shall provide, from non-Federal sources, an
18 amount equal to 50 percent of the amount of the
19 grant, in cash or in kind, to carry out the activities
20 supported by the grant, of which not more than 20
21 percent of such 50 percent may be provided by local
22 educational agencies within the State.

23 (2) WAIVER.—The Secretary may waive all of
24 or a portion of the matching requirement described

1 in paragraph (1) for any fiscal year, if the Secretary
 2 determines that—

3 (A) the application of the matching re-
 4 quirement will result in serious hardship for the
 5 State educational agency; or

6 (B) providing a waiver best serves the pur-
 7 pose of the program assisted under this section.

8 (i) PROGRAM PERFORMANCE AND ACCOUNT-
 9 ABILITY.—

10 (1) INFORMATION.—Each State educational
 11 agency receiving a grant under this section shall col-
 12 lect and report to the Secretary annually such infor-
 13 mation on the results of the grant as the Secretary
 14 may reasonably require, including information on—

15 (A) mathematics achievement data that
 16 show the progress of students participating in
 17 projects under this section (including, to the ex-
 18 tent practicable, comparable data from students
 19 not participating in such projects), based pri-
 20 marily on the results of State, school district
 21 wide, or classroom-based, assessments, includ-
 22 ing—

23 (i) specific identification of those
 24 schools and eligible local educational agen-

1 cies that report the largest gains in mathe-
2 matics achievement; and

3 (ii) evidence on whether the State
4 educational agency and eligible local edu-
5 cational agencies within the State have—

6 (I) significantly increased the
7 number of students achieving at grade
8 level or above in mathematics;

9 (II) significantly increased the
10 percentages of students described in
11 section 1111(b)(2)(C)(v)(II) of the El-
12 ementary and Secondary Education
13 Act of 1965 (20 U.S.C.
14 6311(b)(2)(C)(v)(II)) who are achiev-
15 ing at grade level or above in mathe-
16 matics;

17 (III) significantly increased the
18 number of students making significant
19 progress toward meeting grade-level
20 mathematics achievement standards;
21 and

22 (IV) successfully implemented
23 this section;

24 (B) the percentage of students in the
25 schools served by the eligible local educational

1 agency who enroll in algebra courses and the
2 percentage of such students who pass algebra
3 courses; and

4 (C) the progress made in increasing the
5 quality and accessibility of professional develop-
6 ment and leadership activities in mathematics,
7 especially activities resulting in greater content
8 knowledge and expertise of teachers, adminis-
9 trators, and other school staff, except that the
10 Secretary shall not require such information
11 until after the third year of a grant awarded
12 under this section.

13 (2) REPORTING AND DISAGGREGATION.—The
14 information required under paragraph (1) shall be—

15 (A) reported in a manner that allows for a
16 comparison of aggregated score differentials of
17 student academic achievement before (to the ex-
18 tent feasible) and after implementation of the
19 project assisted under this section; and

20 (B) disaggregated in the same manner as
21 information is disaggregated under section
22 1111(h)(1)(C)(i) of the Elementary and Sec-
23 ondary Education Act of 1965 (20 U.S.C.
24 6311(h)(1)(C)(i)).

1 (3) PRIVACY PROTECTION.—The data in the re-
2 port shall be reported in a manner that—

3 (A) protects the privacy of individuals; and

4 (B) complies with the requirements of the
5 Family Educational Rights and Privacy Act of
6 1974 (20 U.S.C. 1232g).

7 (j) EVALUATION AND TECHNICAL ASSISTANCE.—

8 (1) EVALUATION.—

9 (A) IN GENERAL.—The Secretary shall
10 conduct an annual independent evaluation, by
11 grant or by contract, of the program assisted
12 under this section, which shall include an as-
13 sessment of the impact of the program on stu-
14 dent academic achievement and teacher per-
15 formance, and may use funds available to carry
16 out this section to conduct the evaluation.

17 (B) REPORT.—The Secretary shall annu-
18 ally submit, to the Committee on Health, Edu-
19 cation, Labor, and Pensions of the Senate, the
20 Committee on Education and the Workforce of
21 the House of Representatives, and the Commit-
22 tees on Appropriations of the Senate and House
23 of Representatives, a report on the results of
24 the evaluation.

1 (2) TECHNICAL ASSISTANCE.—The Secretary
 2 may use funds made available under paragraph (3)
 3 to provide technical assistance to prospective appli-
 4 cants and to eligible local educational agencies re-
 5 ceiving a grant under this section.

6 (3) RESERVATION OF FUNDS.—The Secretary
 7 may reserve not more than 2.5 percent of funds ap-
 8 propriated under subsection (k) for a fiscal year to
 9 carry out this subsection.

10 (k) AUTHORIZATION OF APPROPRIATIONS.—There
 11 are authorized to be appropriated to carry out this section
 12 \$146,700,000 for each of the fiscal years 2007 and 2008,
 13 and such sums as may be necessary for each of the 3 suc-
 14 ceeding fiscal years.

15 **TITLE III—FOREIGN LANGUAGE** 16 **PARTNERSHIP PROGRAM**

17 **SEC. 3301. FINDINGS AND PURPOSE.**

18 (a) FINDINGS.—Congress makes the following find-
 19 ings:

20 (1) The United States faces a shortage of
 21 skilled professionals with higher levels of proficiency
 22 in foreign languages and area knowledge critical to
 23 the Nation's security.

24 (2) Given the Nation's economic competitive-
 25 ness interests, it is crucial that our Nation expand

1 the number of Americans who are able to function
 2 effectively in the environments in which critical for-
 3 eign languages are spoken.

4 (3) Students' ability to become proficient in for-
 5 eign languages can be addressed by starting lan-
 6 guage learning at a younger age and expanding op-
 7 portunities for continuous foreign language edu-
 8 cation from elementary school through postsec-
 9 ondary education.

10 (b) PURPOSE.—The purpose of this title is to signifi-
 11 cantly increase—

12 (1) the opportunities to study critical foreign
 13 languages and the context in which the critical for-
 14 eign languages are spoken; and

15 (2) the number of American students who
 16 achieve the highest level of proficiency in critical for-
 17 eign languages.

18 **SEC. 3302. DEFINITIONS.**

19 In this title:

20 (1) ELIGIBLE RECIPIENT.—The term “eligible
 21 recipient” means an institution of higher education
 22 that receives grant funds under this title on behalf
 23 of a partnership for use in carrying out the activities
 24 assisted under this title.

1 (2) PARTNERSHIP.—The term “partnership”
2 means a partnership that—

3 (A) shall include—

4 (i) an institution of higher education;

5 and

6 (ii) 1 or more local educational agen-

7 cies; and

8 (B) may include 1 or more entities that
9 support the purposes of this title.

10 (3) SUPERIOR LEVEL OF PROFICIENCY.—The
11 term “superior level of proficiency” means level 3,
12 the professional working level, as measured by the
13 Federal Interagency Language Roundtable (ILR) or
14 by other generally recognized measures of superior
15 standards.

16 **SEC. 3303. PROGRAM AUTHORIZED.**

17 (a) PROGRAM AUTHORIZED.—

18 (1) IN GENERAL.—The Secretary is authorized
19 to award grants to eligible recipients to enable part-
20 nerships served by the eligible recipients to establish
21 articulated programs of study in critical foreign lan-
22 guages that will enable students to advance success-
23 fully from elementary school through postsecondary
24 education and achieve higher levels of proficiency in
25 a critical foreign language.

1 (2) DURATION.—A grant awarded under para-
2 graph (1) shall be for a period of not more than 5
3 years. A grant may be renewed for not more than
4 2 additional 5-year periods, if the Secretary deter-
5 mines that the partnership’s program is effective
6 and the renewal will best serve the purposes of this
7 title.

8 (b) APPLICATIONS.—

9 (1) IN GENERAL.—Each eligible recipient desir-
10 ing a grant under this section shall submit an appli-
11 cation to the Secretary at such time, in such man-
12 ner, and containing such information as the Sec-
13 retary may require.

14 (2) CONTENTS.—Each application shall—

15 (A) identify each local educational agency
16 partner, including contact information and let-
17 ters of commitment, and describe the respon-
18 sibilities of each member of the partnership, in-
19 cluding—

20 (i) how each of the partners will be in-
21 volved in planning, developing, and imple-
22 menting—

23 (I) program curriculum and ma-
24 terials; and

1 (II) teacher professional develop-
2 ment;

3 (ii) what resources each of the part-
4 ners will provide; and

5 (iii) how the partners will contribute
6 to ensuring the continuity of student
7 progress from elementary school through
8 the postsecondary level;

9 (B) describe how an articulated curriculum
10 for students will be developed and implemented,
11 which may include the use and integration of
12 technology into such curriculum;

13 (C) identify target proficiency levels for
14 students at critical benchmarks (such as grades
15 4, 8, and 12), and describe how progress to-
16 ward those proficiency levels will be assessed at
17 the benchmarks, and how the program will use
18 the results of the assessments to ensure contin-
19 uous progress toward achieving a superior level
20 of proficiency at the postsecondary level;

21 (D) describe how the partnership will—

22 (i) ensure that students from a pro-
23 gram assisted under this title who are be-
24 ginning postsecondary education will be as-

1 sessed and enabled to progress to a supe-
2 rior level of proficiency;

3 (ii) address the needs of students al-
4 ready at, or near, the superior level of pro-
5 ficiency, which may include diagnostic as-
6 sessments for placement purposes, cus-
7 tomized and individualized language learn-
8 ing opportunities, and experimental and
9 interdisciplinary language learning; and

10 (iii) identify and describe how the
11 partnership will work with institutions of
12 higher education outside the partnership to
13 provide participating students with mul-
14 tiple options for postsecondary education
15 consistent with the purposes of this title;

16 (E) describe how the partnership will sup-
17 port and continue the program after the grant
18 has expired, including how the partnership will
19 seek support from other sources, such as State
20 and local governments, foundations, and the
21 private sector; and

22 (F) describe what assessments will be used
23 or, if assessments not available, how assess-
24 ments will be developed.

1 (c) USES OF FUNDS.—Grant funds awarded under
2 this title—

3 (1) shall be used to develop and implement pro-
4 grams at the elementary school level through post-
5 secondary education, consistent with the purpose of
6 this title, including—

7 (A) the development of curriculum and in-
8 structional materials; and

9 (B) recruitment of students; and

10 (2) may be used for—

11 (A) teacher recruitment (including recruit-
12 ment from other professions and recruitment of
13 native-language speakers in the community)
14 and professional development directly related to
15 the purposes of this title at the elementary
16 school through secondary school levels;

17 (B) development of appropriate assess-
18 ments;

19 (C) opportunities for maximum language
20 exposure for students in the program, such as
21 the creation of immersion environments (such
22 as language houses, language tables, immersion
23 classrooms, and weekend and summer experi-
24 ences) and special tutoring and academic sup-
25 port;

1 (D) dual language immersion programs;

2 (E) scholarships and study-abroad oppor-
3 tunities, related to the program, for postsec-
4 ondary students and newly recruited teachers
5 who have advanced levels of proficiency in a
6 critical foreign language, except that not more
7 than 20 percent of the grant funds provided to
8 an eligible recipient under this section for a fis-
9 cal year may be used to carry out this subpara-
10 graph;

11 (F) activities to encourage community in-
12 volvement to assist in meeting the purposes of
13 this title;

14 (G) summer institutes for students and
15 teachers;

16 (H) bridge programs that allow dual en-
17 rollment for secondary school students in insti-
18 tutions of higher education;

19 (I) programs that expand the under-
20 standing and knowledge of historic, geographic,
21 and contextual factors within countries with
22 populations who speak critical foreign lan-
23 guages, if such programs are carried out in con-
24 junction with language instruction;

1 (J) research on, and evaluation of, the
2 teaching of critical foreign languages;

3 (K) data collection and analysis regarding
4 the results of—

5 (i) various student recruitment strate-
6 gies;

7 (ii) program design; and

8 (iii) curricular approaches; and

9 (L) the impact of the strategies, program
10 design, and curricular approaches described in
11 subparagraph (K) on increasing—

12 (i) the number of students studying
13 critical foreign languages; and

14 (ii) the proficiency of the students in
15 the critical foreign languages.

16 (d) MATCHING REQUIREMENT.—

17 (1) IN GENERAL.—An eligible recipient that re-
18 ceives a grant under this title shall provide, toward
19 the cost of carrying out the activities supported by
20 the grant, from non-Federal sources, an amount
21 equal to—

22 (A) 20 percent of the amount of the grant
23 payment for the first fiscal year for which a
24 grant payment is made;

1 (B) 30 percent of the amount of the grant
2 payment for the second such fiscal year;

3 (C) 40 percent of the amount of the grant
4 payment for the third such fiscal year; and

5 (D) 50 percent of the amount of the grant
6 payment for each of the fourth and fifth such
7 fiscal years.

8 (2) NON-FEDERAL SHARE.—The non-Federal
9 share required under paragraph (1) may be provided
10 in cash or in-kind.

11 (3) WAIVER.—The Secretary may waive all or
12 part of the matching requirement of paragraph (1),
13 for any fiscal year, if the Secretary determines
14 that—

15 (A) the application of the matching re-
16 quirement will result in serious hardship for the
17 partnership; or

18 (B) the waiver will best serve the purposes
19 of this title.

20 (e) SUPPLEMENT NOT SUPPLANT.—Grant funds
21 provided under this title shall be used to supplement, not
22 supplant, other Federal and non-Federal funds available
23 to carry out the activities described in subsection (c).

24 (f) TECHNICAL ASSISTANCE.—The Secretary shall
25 enter into a contract to establish a technical assistance

1 center to provide technical assistance to partnerships de-
2 veloping critical foreign language programs assisted under
3 this section. The center shall—

4 (1) assist the partnerships in the development
5 of critical foreign language instructional materials
6 and assessments; and

7 (2) disseminate promising foreign language in-
8 structional practices.

9 (g) PROGRAM EVALUATION.—

10 (1) IN GENERAL.—The Secretary may reserve
11 not more than 5 percent of the total amount appro-
12 priated for this title for any fiscal year to annually
13 evaluate the programs under this title.

14 (2) REPORT.—The Secretary shall prepare and
15 annually submit, to the Committee on Health, Edu-
16 cation, Labor, and Pensions of the Senate, the Com-
17 mittee on Education and the Workforce of the
18 House of Representatives, and the Committees on
19 Appropriations of the Senate and House of Rep-
20 resentatives, a report on the results of any program
21 evaluation conducted under this subsection.

22 **SEC. 3304. AUTHORIZATION OF APPROPRIATIONS.**

23 For the purpose of carrying out this title, there are
24 authorized to be appropriated \$22,000,000 for each of the

1 fiscal years 2007 and 2008, and such sums as may be
 2 necessary for each of the 3 succeeding fiscal years.

3 **TITLE IV—ALIGNMENT OF** 4 **EDUCATION PROGRAMS**

5 **SEC. 3401. ALIGNMENT OF SECONDARY SCHOOL GRADUA-** 6 **TION REQUIREMENTS WITH THE DEMANDS** 7 **OF 21ST CENTURY POSTSECONDARY ENDEAV-** 8 **ORS AND SUPPORT FOR P-16 EDUCATION** 9 **DATA SYSTEMS.**

10 (a) PURPOSE.—It is the purpose of this section—

11 (1) to promote more accountability with respect
 12 to preparation for higher education, the 21st century
 13 workforce, and the Armed Forces, by aligning—

14 (A) student knowledge, student skills,
 15 State academic content standards and assess-
 16 ments, and curricula, in elementary and sec-
 17 ondary education, especially with respect to
 18 mathematics, science, reading, and, where ap-
 19 plicable, engineering and technology; with

20 (B) the demands of higher education, the
 21 21st century workforce, and the Armed Forces;

22 (2) to support the establishment or improve-
 23 ment of statewide P-16 education data systems
 24 that—

1 (A) assist States in improving the rigor
 2 and quality of elementary and secondary edu-
 3 cation content knowledge requirements and as-
 4 sessments;

5 (B) ensure students are prepared to suc-
 6 ceed in—

7 (i) academic credit-bearing coursework
 8 in higher education without the need for
 9 remediation;

10 (ii) the 21st century workforce; or

11 (iii) the Armed Forces; and

12 (3) enable States to have valid and reliable in-
 13 formation to inform education policy and practice.

14 (b) DEFINITIONS.—In this section:

15 (1) INSTITUTION OF HIGHER EDUCATION.—The
 16 term “institution of higher education” has the
 17 meaning given the term in section 101(a) of the
 18 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

19 (2) P–16 EDUCATION.—The term “P–16 edu-
 20 cation” means the educational system from pre-
 21 kindergarten through the conferring of a bacca-
 22 laurate degree.

23 (3) STATEWIDE PARTNERSHIP.—The term
 24 “statewide partnership” means a partnership that—

25 (A) shall include—

1 (i) the Governor of the State or the
2 designee of the Governor;

3 (ii) the heads of the State systems for
4 public higher education, or, if such a posi-
5 tion does not exist, not less than 1 rep-
6 resentative of a public degree-granting in-
7 stitution of higher education;

8 (iii) not less than 1 representative of
9 a technical school;

10 (iv) not less than 1 representative of
11 a public secondary school;

12 (v) the chief State school officer;

13 (vi) the chief executive officer of the
14 State higher education coordinating board;

15 (vii) not less than 1 public elementary
16 school teacher employed in the State;

17 (viii) not less than 1 public elemen-
18 tary school teacher certified in early child-
19 hood education;

20 (ix) not less than 1 public secondary
21 school teacher employed in the State;

22 (x) not less than 1 representative of
23 the business community in the State; and

24 (xi) not less than 1 member of the
25 Armed Forces; and

1 (B) may include other individuals or rep-
2 resentatives of other organizations, such as a
3 school administrator, a faculty member at an
4 institution of higher education, a member of a
5 civic or community organization, a representa-
6 tive from a private institution of higher edu-
7 cation, a dean or similar representative of a
8 school of education at an institution of higher
9 education or a similar teacher certification or li-
10 censure program, or the State official respon-
11 sible for economic development.

12 (c) GRANTS AUTHORIZED.—The Secretary is author-
13 ized to award grants, on a competitive basis, to States to
14 enable each such State to work with a statewide partner-
15 ship—

16 (1) to promote better alignment of content
17 knowledge requirements for secondary school grad-
18 uation with the knowledge and skills needed to suc-
19 ceed in postsecondary education, the 21st century
20 workforce, or the Armed Forces; or

21 (2) to establish or improve a statewide P-16
22 education data system.

23 (d) PERIOD OF GRANTS; NON-RENEWABILITY.—

1 (1) GRANT PERIOD.—The Secretary shall
2 award a grant under this section for a period of not
3 more than 3 years.

4 (2) NON-RENEWABILITY.—The Secretary shall
5 not award a State more than 1 grant under this sec-
6 tion.

7 (e) AUTHORIZED ACTIVITIES.—

8 (1) GRANTS FOR P-16 ALIGNMENT.—Each
9 State receiving a grant under subsection (c)(1)—

10 (A) shall use the grant funds for—

11 (i) identifying and describing the con-
12 tent knowledge and skills students who
13 enter institutions of higher education, the
14 workforce, and the Armed Forces need to
15 have in order to succeed without any reme-
16 diation based on detailed requirements ob-
17 tained from institutions of higher edu-
18 cation, employers, and the Armed Forces;

19 (ii) identifying and making changes
20 that need to be made to a State's sec-
21 ondary school graduation requirements,
22 academic content standards, academic
23 achievement standards, and assessments
24 preceding graduation from secondary
25 school in order to align the requirements,

standards, and assessments with the knowledge and skills necessary for success in academic credit-bearing coursework in postsecondary education, in the 21st century workforce, and in the Armed Forces without the need for remediation;

(iii) convening stakeholders within the State and creating a forum for identifying and deliberating on education issues that—

(I) involve prekindergarten through grade 12 education, postsecondary education, the 21st century workforce, and the Armed Forces; and

(II) transcend any single system of education's ability to address; and

(iv) implementing activities designed to ensure the enrollment of all elementary school and secondary school students in rigorous coursework, which may include—

(I) specifying the courses and performance levels necessary for acceptance into institutions of higher education; and

(II) developing curricula and assessments aligned with State academic

1 content standards, which assessments
2 may be used as measures of student
3 academic achievement in secondary
4 school as well as for entrance or
5 placement at institutions of higher
6 education, including through collabo-
7 ration with institutions of higher edu-
8 cation in, or State educational agen-
9 cies serving, other States; and

10 (B) may use the grant funds for—

11 (i) developing and making available
12 specific opportunities for extensive profes-
13 sional development for teachers, para-
14 professionals, principals, and school admin-
15 istrators, including collection and dissemi-
16 nation of effective teaching practices to im-
17 prove instruction and instructional support
18 mechanisms;

19 (ii) identifying changes in State aca-
20 demic content standards, academic achieve-
21 ment standards, and assessments for stu-
22 dents in grades preceding secondary school
23 in order to ensure the students are ade-
24 quately prepared when the students enter
25 secondary school;

(iii) developing a plan to provide re-
mediation and additional learning opportu-
nities for students who are performing
below grade level to ensure that all stu-
dents will have the opportunity to meet
secondary school graduation requirements;
or

(iv) identifying and addressing teacher
certification needs.

(2) GRANTS FOR STATEWIDE P-16 EDUCATION
DATA SYSTEMS.—

(A) ESTABLISHMENT OF SYSTEM.—Each
State that receives a grant under subsection
(c)(2) shall establish a statewide P-16 edu-
cation longitudinal data system that—

(i) provides each student, upon enroll-
ment in a public elementary school or sec-
ondary school in the State, with a unique
identifier, such as a bar code, that—

(I) does not permit a student to
be individually identified by users of
the system; and

(II) is retained throughout the
student's enrollment in P-16 edu-
cation in the State; and

1 (ii) meets the requirements of sub-
2 paragraphs (B) through (E).

3 (B) IMPROVEMENT OF EXISTING SYS-
4 TEM.—Each State that receives a grant under
5 subsection (c)(2) for the improvement of a
6 statewide P–16 education data system may em-
7 ploy, coordinate, or revise an existing statewide
8 data system to establish a statewide longitu-
9 dinal P–16 education data system that meets
10 the requirements of subparagraph (A), if the
11 statewide longitudinal P–16 education data sys-
12 tem produces valid and reliable data.

13 (C) DATA AND COMPLIANCE WITH
14 FERPA.—The State, through the implementa-
15 tion of the statewide P–16 education data sys-
16 tem, shall—

17 (i) ensure the implementation and use
18 of valid and reliable secondary school drop-
19 out data; and

20 (ii) ensure that the statewide P–16
21 education data system meets the require-
22 ments of the Family Educational Rights
23 and Privacy Act of 1974 (20 U.S.C.
24 1232g).

1 (D) REQUIRED ELEMENTS OF A STATE-
2 WIDE P-16 EDUCATION DATA SYSTEM.—The
3 State shall ensure that the statewide P-16 edu-
4 cation data system includes the following ele-
5 ments:

6 (i) PREKINDERGARTEN THROUGH
7 GRADE 12 EDUCATION AND POSTSEC-
8 ONDARY EDUCATION.—With respect to
9 prekindergarten through grade 12 edu-
10 cation and postsecondary education—

11 (I) a unique statewide student
12 identifier that does not permit a stu-
13 dent to be individually identified by
14 users of the system;

15 (II) student-level enrollment, de-
16 mographic, and program participation
17 information;

18 (III) student-level information
19 about the points at which students
20 exit, transfer in, transfer out, drop
21 out, or complete P-16 education pro-
22 grams;

23 (IV) the capacity to communicate
24 with higher education data systems;
25 and

1 (V) a State data audit system as-
2 sessing data quality, validity, and reli-
3 ability.

4 (ii) PREKINDERGARTEN THROUGH
5 GRADE 12 EDUCATION.—With respect to
6 prekindergarten through grade 12 edu-
7 cation—

8 (I) yearly test records of indi-
9 vidual students with respect to assess-
10 ments under section 1111(b) of the
11 Elementary and Secondary Education
12 Act of 1965 (20 U.S.C. 6311(b));

13 (II) information on students not
14 tested by grade and subject;

15 (III) a teacher identifier system
16 with the ability to match teachers to
17 students;

18 (IV) student-level transcript in-
19 formation, including information on
20 courses completed and grades earned;
21 and

22 (V) student-level college readi-
23 ness test scores.

1 (iii) POSTSECONDARY EDUCATION.—

2 With respect to postsecondary education,
3 data that provide—

4 (I) information regarding the ex-
5 tent to which students transition suc-
6 cessfully from secondary school to
7 postsecondary education, including
8 whether students enroll in remedial
9 coursework; and

10 (II) other information determined
11 necessary to address alignment and
12 adequate preparation for success in
13 postsecondary education.

14 (E) FUNCTIONS OF THE STATEWIDE P-16
15 EDUCATION DATA SYSTEM.—In implementing
16 the statewide P-16 education data system, the
17 State shall—

18 (i) identify factors that correlate to
19 students' ability to successfully engage in
20 and complete postsecondary-level general
21 education coursework without the need for
22 prior developmental coursework;

23 (ii) identify factors to increase the
24 percentage of low-income and minority stu-
25 dents who are academically prepared to

1 enter and successfully complete postsec-
2 ondary-level general education coursework;
3 and

4 (iii) use the data in the system to oth-
5 erwise inform education policy and practice
6 in order to better align student knowledge
7 and skills, and curricula, with the demands
8 of postsecondary education, the 21st cen-
9 tury workforce, and the Armed Forces.

10 (f) APPLICATION.—

11 (1) IN GENERAL.—Each State desiring a grant
12 under this section shall submit an application to the
13 Secretary at such time, in such manner, and con-
14 taining such information as the Secretary may rea-
15 sonably require.

16 (2) APPLICATION CONTENTS.—Each application
17 submitted under this section shall specify whether
18 the State application is for the conduct P–16 edu-
19 cation alignment activities, or the establishment or
20 improvement of a statewide P–16 education data
21 system. The application shall include, at a minimum,
22 the following:

23 (A) A description of the activities and pro-
24 grams to be carried out with the grant funds

1 and a comprehensive plan for carrying out the
2 activities.

3 (B) A description of how the concerns and
4 interests of the larger education community, in-
5 cluding parents, students, teachers, teacher
6 educators, principals, and school administrators
7 will be represented in carrying out the author-
8 ized activities described in subsection (e).

9 (C) in the case of a State applying for
10 funding for P-16 education alignment, a de-
11 scription of how the State will provide assist-
12 ance to local educational agencies in imple-
13 menting rigorous State content knowledge re-
14 quirements through substantive curricula and
15 other changes the State determines necessary,
16 including scientifically based remediation and
17 acceleration opportunities for students.

18 (D) in the case of a State applying for
19 funding to establish or improve a statewide P-
20 16 education data system—

21 (i) a description of and the timetable
22 for the establishment or improvement of
23 such system; and

24 (ii) an assurance that the State will
25 continue to fund the statewide P-16 edu-

1 cation data system after the end of the
2 grant period.

3 (g) SUPPLEMENT NOT SUPPLANT.—Grant funds
4 provided under this section shall be used to supplement,
5 not supplant, other Federal, State, and local funds avail-
6 able to carry out the authorized activities described in sub-
7 section (e).

8 (h) MATCHING REQUIREMENT.—Each State that re-
9 ceives a grant under this section shall provide, from non-
10 Federal sources, an amount equal to 100 percent of the
11 amount of the grant, in cash or in kind, to carry out the
12 activities supported by the grant.

13 (i) RULE OF CONSTRUCTION.—Nothing in this sec-
14 tion shall be construed to require States to provide raw
15 data to the Secretary.

16 (j) AUTHORIZATION OF APPROPRIATIONS.—There
17 are authorized to be appropriated to carry out this section
18 \$80,000,000 for fiscal year 2007, \$100,000,000 for fiscal
19 year 2008, and such sums as may be necessary for fiscal
20 year 2009.

21 **DIVISION D—NATIONAL** 22 **SCIENCE FOUNDATION**

23 **SEC. 4001. AUTHORIZATION OF APPROPRIATIONS.**

24 (a) IN GENERAL.—There are authorized to be appro-
25 priated to the National Science Foundation—

- 1 (1) \$6,232,000,000 for fiscal year 2007;
- 2 (2) \$6,808,000,000 for fiscal year 2008;
- 3 (3) \$7,433,000,000 for fiscal year 2009;
- 4 (4) \$8,446,000,000 for fiscal year 2010; and
- 5 (5) \$11,200,000,000 for fiscal year 2011.

6 (b) PLAN FOR INCREASED RESEARCH.—

7 (1) IN GENERAL.—Not later than 180 days
8 after the date of the enactment of this Act, the Di-
9 rector of the National Science Foundation, in con-
10 sultation with the National Science Board, shall sub-
11 mit a comprehensive, multiyear plan that describes
12 how the funds authorized in subsection (a) would be
13 used, if appropriated, to the Committee on Com-
14 merce, Science, and Transportation of the Senate,
15 the Committee on Health, Education, Labor, and
16 Pensions of the Senate, and the Committee on
17 Science of the House of Representatives.

18 (2) PLAN REQUIREMENTS.—The Director
19 shall—

20 (A) develop the plan with a focus on
21 strengthening the Nation's lead in physical
22 science and technology, increasing overall work-
23 force skills in physical science, technology, engi-
24 neering, and mathematics at all levels, and
25 strengthening innovation by expanding the

1 focus of competitiveness and innovation policy
 2 at the regional and local level; and

3 (B) emphasize spending increased research
 4 funds appropriated pursuant to subsection (a)
 5 in areas of investment for Federal research and
 6 technology programs identified under section
 7 1101(c) of this Act.

8 **SEC. 4002. STRENGTHENING OF EDUCATION AND HUMAN**
 9 **RESOURCES DIRECTORATE THROUGH EQUI-**
 10 **TABLE DISTRIBUTION OF NEW FUNDS.**

11 (a) PURPOSE.—The purpose of this section is to en-
 12 sure the continued involvement of experts at the National
 13 Science Foundation in improving science, technology, en-
 14 gineering, and mathematics education at the elementary,
 15 secondary, and postsecondary school levels by providing
 16 annual funding increases for the education and human re-
 17 sources programs of the National Science Foundation that
 18 are proportional to the funding increases provided to the
 19 Foundation overall.

20 (b) EQUITABLE DISTRIBUTION OF NEW FUNDS.—
 21 Within the amounts authorized to be appropriated by sec-
 22 tion 4001, there are authorized to be appropriated for the
 23 education and human resources programs of the National
 24 Science Foundation—

25 (1) \$1,050,000,000 for fiscal year 2007; and

1 (2) for each of the fiscal years 2008 through
2 2011, an amount equal to \$1,050,000,000 increased
3 for each such fiscal year by an amount equal to the
4 percentage increase in the appropriation for the Na-
5 tional Science Foundation for such fiscal year above
6 the amount appropriated to the National Science
7 Foundation for fiscal year 2007.

8 **SEC. 4003. GRADUATE FELLOWSHIPS AND GRADUATE**
9 **TRAINEESHIPS.**

10 (a) GRADUATE RESEARCH FELLOWSHIP PRO-
11 GRAM.—

12 (1) IN GENERAL.—During the 5-year period be-
13 ginning on the date of the enactment of this Act, the
14 Director of the National Science Foundation shall
15 expand the Graduate Research Fellowship Program
16 of the National Science Foundation so that an addi-
17 tional 1,250 fellowships are awarded to citizens or
18 nationals of the United States or eligible lawful per-
19 manent residents under the Program during that pe-
20 riod.

21 (2) EXTENSION OF FELLOWSHIP PERIOD.—The
22 Director is authorized to award fellowships under
23 the Graduate Research Fellowship Program for a
24 period of up to 5 years.

1 (3) AUTHORIZATION OF APPROPRIATIONS.—

2 Within the amounts authorized to be appropriated
 3 by section 4001, there are authorized to be appro-
 4 priated, to provide an additional 250 fellowships
 5 under the Graduate Research Fellowship Program
 6 during each of the fiscal years 2007 through 2011,
 7 the following:

8 (A) \$12,000,000 for fiscal year 2007.

9 (B) \$24,000,000 for fiscal year 2008.

10 (C) \$36,000,000 for fiscal year 2009.

11 (D) \$48,000,000 for fiscal year 2010.

12 (E) \$60,000,000 for fiscal year 2011.

13 (b) INTEGRATIVE GRADUATE EDUCATION AND RE-
 14 SEARCH TRAINEESHIP PROGRAM.—

15 (1) IN GENERAL.—During the 5-year period be-
 16 ginning on the date of the enactment of this Act, the
 17 Director shall expand the Integrative Graduate Edu-
 18 cation and Research Traineeship program of the Na-
 19 tional Science Foundation so that an additional
 20 1,250 individuals who are citizens or nationals of the
 21 United States or eligible lawful permanent residents
 22 are awarded grants under the program during that
 23 period.

24 (2) AUTHORIZATION OF APPROPRIATIONS.—

25 Within the amounts authorized to be appropriated

1 by section 4001, there are authorized to be appro-
 2 priated, to provide grants to an additional 250 indi-
 3 viduals under the Integrative Graduate Education
 4 and Research Traineeship program during each of
 5 the fiscal years 2007 through 2011, the following:

6 (A) \$11,000,000 for fiscal year 2007.

7 (B) \$22,000,000 for fiscal year 2008.

8 (C) \$33,000,000 for fiscal year 2009.

9 (D) \$44,000,000 for fiscal year 2010.

10 (E) \$55,000,000 for fiscal year 2011.

11 (c) DEFINITION OF ELIGIBLE LAWFUL PERMANENT
 12 RESIDENT.—In this section, the term “eligible lawful per-
 13 manent resident” means a lawful permanent resident of
 14 the United States who declares an intent—

15 (1) to apply for United States citizenship; or

16 (2) to reside in the United States for not less
 17 than 5 years after the completion of a graduate fel-
 18 lowship or traineeship awarded under this section.

19 **SEC. 4004. PROFESSIONAL SCIENCE MASTER’S DEGREE**
 20 **PROGRAMS.**

21 (a) CLEARINGHOUSE.—

22 (1) DEVELOPMENT.—The Director of the Na-
 23 tional Science Foundation shall establish a clearing-
 24 house, in collaboration with 4-year institutions of
 25 higher education (including applicable graduate

1 schools and academic departments), and industries
2 and Federal agencies that employ science-trained
3 personnel, to share program elements used in suc-
4 cessful professional science master's degree pro-
5 grams and other advanced degree programs related
6 to science, mathematics, technology, and engineer-
7 ing.

8 (2) AVAILABILITY.—The Director shall make
9 the clearinghouse of program elements developed
10 under paragraph (1) available to institutions of
11 higher education that are developing professional
12 science master's degree programs.

13 (b) PROGRAMS.—

14 (1) PROGRAMS AUTHORIZED.—The Director
15 shall award grants to 4-year institutions of higher
16 education to facilitate the institutions' creation or
17 improvement of professional science master's degree
18 programs.

19 (2) APPLICATION.—A 4-year institution of
20 higher education desiring a grant under this section
21 shall submit an application at such time, in such
22 manner, and accompanied by such information as
23 the Director may require. The application shall in-
24 clude—

1 (A) a description of the professional
2 science master's degree program that the insti-
3 tution of higher education will implement;

4 (B) the amount of funding from non-Fed-
5 eral sources, including from private industries,
6 that the institution of higher education shall
7 use to support the professional science master's
8 degree program; and

9 (C) an assurance that the institution of
10 higher education shall encourage students in
11 the professional science master's degree pro-
12 gram to apply for all forms of Federal assist-
13 ance available to such students, including appli-
14 cable graduate fellowships and student financial
15 assistance under titles IV and VII of the High-
16 er Education Act of 1965 (20 U.S.C. 1070 et
17 seq., 1133 et seq.).

18 (3) PREFERENCE FOR APPLICANTS WITH AL-
19 TERNATIVE FUNDING SOURCES.—The Director shall
20 give preference in making awards to 4-year institu-
21 tions of higher education seeking Federal funding to
22 create or improve professional science master's de-
23 gree programs, to those applicants that secure more
24 than $\frac{2}{3}$ of the funding for such professional science

1 master's degree programs from sources other than
2 the Federal Government.

3 (4) NUMBER OF GRANTS; TIME PERIOD OF
4 GRANTS.—

5 (A) NUMBER OF GRANTS.—Subject to the
6 availability of appropriated funds, the Director
7 shall award grants under paragraph (1) to a
8 maximum of 200 4-year institutions of higher
9 education.

10 (B) TIME PERIOD OF GRANTS.—Grants
11 awarded under this section shall be for one 3-
12 year term. Grants may be renewed only once
13 for a maximum of 2 additional years.

14 (5) EVALUATION AND REPORTS.—

15 (A) DEVELOPMENT OF PERFORMANCE
16 BENCHMARKS.—Prior to the start of the grant
17 program, the Director of the National Science
18 Foundation, in collaboration with 4-year insti-
19 tutions of higher education (including applicable
20 graduate schools and academic departments),
21 and industries and Federal agencies that em-
22 ploy science-trained personnel, shall develop
23 performance benchmarks to evaluate the pilot
24 programs assisted by grants under this section.

1 (B) EVALUATION.—For each year of the
2 grant period, the Director, in consultation with
3 4-year institutions of higher education (includ-
4 ing applicable graduate schools and academic
5 departments), and industries and Federal agen-
6 cies that employ science-trained personnel, shall
7 complete an evaluation of each program as-
8 sisted by grants under this section. Any pro-
9 gram that fails to satisfy the performance
10 benchmarks developed under subparagraph (A)
11 shall not be eligible for further funding.

12 (C) REPORT.—Not later than 180 days
13 after the completion of an evaluation described
14 in subparagraph (B), the Director shall submit
15 a report to Congress that includes—

16 (i) the results of the evaluation de-
17 scribed in subparagraph (B); and

18 (ii) recommendations for administra-
19 tive and legislative action that could opti-
20 mize the effectiveness of the pilot pro-
21 grams, as the Director determines to be
22 appropriate.

23 (c) INSTITUTION OF HIGHER EDUCATION DE-
24 FINED.—In this section, the term “institution of higher
25 education” has the meaning given that term in section

1 101(a) of the Higher Education Act of 1965 (20 U.S.C.
2 1001(a)).

3 (d) AUTHORIZATION OF APPROPRIATIONS.—Within
4 the amounts authorized to be appropriated by section
5 4001, there are authorized to be appropriated to carry out
6 this section—

7 (1) \$10,000,000 for fiscal year 2007;

8 (2) \$15,000,000 for fiscal year 2008;

9 (3) \$18,000,000 for fiscal year 2009; and

10 (4) \$20,000,000 for each of the fiscal years
11 2010 and 2011.

12 **SEC. 4005. INCREASED SUPPORT FOR SCIENCE EDUCATION**
13 **THROUGH THE NATIONAL SCIENCE FOUNDA-**
14 **TION.**

15 (a) IN GENERAL.—Within the amounts authorized to
16 be appropriated by section 4001, there are authorized to
17 be appropriated to carry out the science, mathematics, en-
18 gineering, and technology talent expansion program under
19 section 8(7) of the National Science Foundation Author-
20 ization Act of 2002 (Public Law 107–368, 116 Stat.
21 3042)—

22 (1) \$33,000,000 for fiscal year 2007;

23 (2) \$40,000,000 for fiscal year 2008;

24 (3) \$45,000,000 for fiscal year 2009;

25 (4) \$50,000,000 for fiscal year 2010; and

1 (5) \$55,000,000 for fiscal year 2011.

2 (b) PROMOTING OUTREACH AND HIGH QUALITY.—

3 Section 8(7)(C) of the National Science Foundation Au-
 4 thorization Act of 2002 (Public Law 107–368, 116 Stat.
 5 3042) is amended—

6 (1) by redesignating clauses (i) through (vi) as
 7 subclauses (I) through (VI), respectively, and in-
 8 denting appropriately;

9 (2) by striking “include those that promote
 10 high quality—” and inserting “include programs
 11 that—

12 “(i) promote high-quality—”;

13 (3) in clause (i) (as inserted by paragraph
 14 (2))—

15 (A) in subclause (III) (as redesignated by
 16 paragraph (1)), by striking “for students;” and
 17 inserting “for students, especially underrep-
 18 resented minority and female mathematics,
 19 science, engineering, and technology students;”;

20 (B) in subclause (V) (as redesignated by
 21 paragraph (1)), by striking “and” after the
 22 semicolon;

23 (C) in subclause (VI) (as redesignated by
 24 paragraph (1)), by striking “students.” and in-
 25 serting “students; and”; and

1 (D) by adding at the end the following:

2 “(VII) outreach programs that pro-
3 vide middle and secondary school students
4 and their science and math teachers oppor-
5 tunities to increase the students’ and
6 teachers’ exposure to engineering and tech-
7 nology;”; and

8 (4) by adding at the end the following:

9 “(ii) finance summer internships for math-
10 ematics, science, engineering, and technology
11 undergraduate students;

12 “(iii) facilitate the hiring of additional
13 mathematics, science, engineering, and tech-
14 nology faculty; and

15 “(iv) serve as bridges to enable underrep-
16 resented minority and female secondary school
17 students to obtain extra mathematics, science,
18 engineering, and technology training prior to
19 entering an institution of higher education.”.

20 **SEC. 4006. MEETING CRITICAL NATIONAL SCIENCE NEEDS.**

21 (a) IN GENERAL.—In addition to any other criteria,
22 the Director of the National Science Foundation shall in-
23 clude consideration of the degree to which awards and re-
24 search activities that otherwise qualify for support by the
25 National Science Foundation may assist in meeting crit-

1 ical national needs in innovation, competitiveness, the
 2 physical and natural sciences, technology, engineering,
 3 and mathematics.

4 (b) PRIORITY TREATMENT.—The Director shall give
 5 priority in the selection of awards and the allocation of
 6 National Science Foundation resources to proposed re-
 7 search activities, and grants funded under the National
 8 Science Foundation’s Research and Related Activities Ac-
 9 count, that can be expected to make contributions in phys-
 10 ical or natural science, technology, engineering, or mathe-
 11 matics, or that enhance competitiveness or innovation in
 12 the United States.

13 (c) LIMITATION.—Nothing in this section shall be
 14 construed to restrict or bias the grant selection process
 15 against funding other areas of research deemed by the Na-
 16 tional Science Foundation to be consistent with its man-
 17 date nor to change the core mission of the National
 18 Science Foundation.

19 **SEC. 4007. REAFFIRMATION OF THE MERIT-REVIEW PROC-**
 20 **ESS OF THE NATIONAL SCIENCE FOUNDA-**
 21 **TION.**

22 Nothing in this division or division A, or the amend-
 23 ments made by this division or division A, shall be inter-
 24 preted to require or recommend that the National Science
 25 Foundation—

1 (1) alter or modify its merit-review system or
2 peer-review process; or

3 (2) exclude the awarding of any proposal by
4 means of the merit-review or peer-review process.

5 **SEC. 4008. EXPERIMENTAL PROGRAM TO STIMULATE COM-**
6 **PETITIVE RESEARCH.**

7 Within the amounts authorized to be appropriated by
8 section 4001, there are authorized to be appropriated to
9 the National Science Foundation for the Experimental
10 Program to Stimulate Competitive Research authorized
11 under section 113 of the National Science Foundation Au-
12 thorization Act of 1988 (42 U.S.C. 1862g)—

13 (1) \$125,000,000 for fiscal year 2007; and

14 (2) for each of fiscal years 2008 through 2011,
15 an amount equal to \$125,000,000 increased for each
16 such year by an amount equal to the percentage in-
17 crease in the appropriation for the National Science
18 Foundation for such fiscal year above the total
19 amount appropriated to the National Science Foun-
20 dation for fiscal year 2007.

21 **SEC. 4009. ENCOURAGING PARTICIPATION.**

22 (a) MENTORING PROGRAM.—The Director of the Na-
23 tional Science Foundation shall establish a program to re-
24 cruit and provide mentors for women who are interested
25 in careers in science, technology, engineering, and mathe-

1 matics by pairing such women who are in science, tech-
2 nology, engineering, or mathematics programs of study in
3 secondary school, community college, undergraduate or
4 graduate school with mentors who are working in indus-
5 try.

6 (b) ADDITIONAL LEARNING PROGRAM.—The Direc-
7 tor shall also establish a program to provide grants to
8 community colleges to provide additional learning and
9 other appropriate training to allow women to enter higher-
10 paying technical jobs in fields related to science, tech-
11 nology, engineering, or mathematics.

12 (c) APPLICATIONS.—An institution of higher edu-
13 cation, including a community college, desiring a grant
14 under this section shall submit an application at such
15 time, in such manner, and accompanied by such informa-
16 tion as the Director may require.

17 (d) PROGRAM EVALUATION.—The Director shall es-
18 tablish metrics to evaluate the success of the programs
19 established under subsections (a) and (b) annually and re-
20 port the findings and conclusions of the evaluations annu-
21 ally to Congress.

22 **SEC. 4010. CYBERINFRASTRUCTURE.**

23 In order to continue and expand efforts to ensure
24 that research institutions throughout the Nation can fully
25 participate in research programs of the National Science

1 Foundation and collaborate with colleagues throughout
 2 the nation, the Director of the National Science Founda-
 3 tion, within 180 days after the date of enactment of this
 4 Act, shall develop and publish a plan that describes the
 5 current status of broadband access for scientific research
 6 purposes in States located in EPSCoR-eligible jurisdic-
 7 tions and outlines actions which can be taken to ensure
 8 that such connections are available to enable participation
 9 in those National Science Foundation programs which rely
 10 heavily on high-speed networking and collaborations
 11 across institutions and regions.

12 **SEC. 4011. FEDERAL INFORMATION AND COMMUNICATIONS**
 13 **TECHNOLOGY RESEARCH.**

14 (a) ADVANCED INFORMATION AND COMMUNICATIONS
 15 TECHNOLOGY RESEARCH.—

16 (1) NATIONAL SCIENCE FOUNDATION INFORMA-
 17 TION AND COMMUNICATIONS TECHNOLOGY RE-
 18 SEARCH.—The Director of the National Science
 19 Foundation shall establish a program of basic re-
 20 search in advanced information and communications
 21 technologies focused on enhancing or facilitating the
 22 availability and affordability of advanced commu-
 23 nications services to all people of the United States.
 24 In developing and carrying out the program, the Di-

1 rector shall consult with the Board established under
2 paragraph (2).

3 (2) FEDERAL ADVANCED INFORMATION AND
4 COMMUNICATIONS TECHNOLOGY RESEARCH
5 BOARD.—There is established within the National
6 Science Foundation a Federal Advanced Information
7 and Communications Technology Research Board
8 (referred to in this subsection as “the Board”)
9 which shall advise the Director of the National
10 Science Foundation in carrying out the program au-
11 thorized under paragraph (1). The Board shall be
12 composed of individuals with expertise in informa-
13 tion and communications technologies, including rep-
14 resentatives from the National Telecommunications
15 and Information Administration, the Federal Com-
16 munications Commission, the National Institute of
17 Standards and Technology, and the Department of
18 Defense, and representatives from industry and edu-
19 cational institutions.

20 (3) GRANT PROGRAM.—The Director of the Na-
21 tional Science Foundation, in consultation with the
22 Board, shall award grants for basic research into ad-
23 vanced information and communications technologies
24 that will contribute to enhancing or facilitating the
25 availability and affordability of advanced commu-

1 nications services to all people of the United States.
2 Areas of research to be supported through the
3 grants include—

4 (A) affordable broadband access, including
5 wireless technologies;

6 (B) network security and reliability;

7 (C) communications interoperability;

8 (D) networking protocols and architec-
9 tures, including resilience to outages or attacks;

10 (E) trusted software;

11 (F) privacy;

12 (G) nanoelectronics for communications
13 applications;

14 (H) low-power communications electronics;

15 (I) implementation of equitable access to
16 national advanced fiber optic research and edu-
17 cational networks in noncontiguous States; and

18 (J) such other related areas as the Direc-
19 tor, in consultation with the Board, finds ap-
20 propriate.

21 (4) CENTERS.—The Director shall award
22 multiyear grants, subject to the availability of appro-
23 priations, to institutions of higher education (as de-
24 fined in section 101(a) of the Higher Education Act
25 of 1965 (20 U.S.C. 1001(a)), nonprofit research in-

1 stitutions affiliated with institutions of higher edu-
2 cation, or consortia thereof to establish multidisci-
3 plinary Centers for Communications Research. The
4 purpose of the Centers shall be to generate innova-
5 tive approaches to problems in communications and
6 information technology research, including the re-
7 search areas described in paragraph (3). Institutions
8 of higher education, nonprofit research institutions
9 affiliated with institutions of higher education, or
10 consortia receiving such grants may partner with 1
11 or more government laboratories or for-profit enti-
12 ties, or other institutions of higher education or non-
13 profit research institutions.

14 (5) APPLICATIONS.—The Director of the Na-
15 tional Science Foundation, in consultation with the
16 Board, shall establish criteria for the award of
17 grants under paragraphs (3) and (4). Such grants
18 shall be awarded under the programs on a merit-re-
19 viewed competitive basis. The Director shall give pri-
20 ority to grants that offer the potential for revolu-
21 tionary rather than evolutionary breakthroughs.

22 (6) AUTHORIZATION OF APPROPRIATIONS.—
23 Within the amounts authorized to be appropriated
24 by section 4001, there are authorized to be appro-

1 priated to the National Science Foundation to carry
2 out this subsection—

3 (A) \$40,000,000 for fiscal year 2007;

4 (B) \$45,000,000 for fiscal year 2008;

5 (C) \$50,000,000 for fiscal year 2009;

6 (D) \$55,000,000 for fiscal year 2010; and

7 (E) \$60,000,000 for fiscal year 2011.

8 (b) NATIONAL INSTITUTE OF STANDARDS AND
9 TECHNOLOGY RESPONSIBILITIES.—The Director of the
10 National Institute of Standards and Technology shall con-
11 tinue to support research and support standards develop-
12 ment in advanced information and communications tech-
13 nologies focused on enhancing or facilitating the avail-
14 ability and affordability of advanced communications serv-
15 ices to all people of the United States, in order to imple-
16 ment the Institute’s responsibilities under section 2(c)(12)
17 of the National Institute of Standards and Technology Act
18 (15 U.S.C. 272(c)(12)). The Director shall support intra-
19 mural research and cooperative research with institutions
20 of higher education (as defined in section 101(a) of the
21 Higher Education Act of 1965 (20 U.S.C. 1001(a)) and
22 industry.

1 **SEC. 4012. ROBERT NOYCE TEACHER SCHOLARSHIP PRO-**
 2 **GRAM.**

3 (a) IN GENERAL.—Section 10 of the National
 4 Science Foundation Authorization Act of 2002 (42 U.S.C.
 5 1862n–1) is amended—

6 (1) in the section heading, by inserting
 7 “**TEACHER**” after “**NOYCE**”;

8 (2) in subsection (a)—

9 (A) in paragraph (1)—

10 (i) by striking “to provide scholar-
 11 ships, stipends, and programming de-
 12 signed”;

13 (ii) by inserting “and to provide schol-
 14 arships and stipends to students partici-
 15 pating in the program” after “science
 16 teachers”; and

17 (iii) by inserting “Teacher” after
 18 “Noyce”;

19 (B) in paragraph (3)—

20 (i) in subparagraph (A)—

21 (I) in the matter preceding clause

22 (i)—

23 (aa) by striking “encourage
 24 top college juniors and seniors
 25 majoring in” and inserting “re-
 26 cruit and prepare undergraduate

1 students to pursue degrees in”;
2 and

3 (bb) by striking “to become”
4 and inserting “and become quali-
5 fied as”;

6 (II) in clause (ii)—

7 (aa) by striking “programs
8 to help scholarship recipients”
9 and inserting “academic courses
10 and clinical teaching experiences
11 designed to prepare students par-
12 ticipating in the program”;

13 (bb) by striking “programs
14 that will result in” and inserting
15 “such preparation as is necessary
16 to meet requirements for”; and

17 (cc) by striking “licensing;
18 and” and inserting “licensing;”;

19 (III) in clause (iii)—

20 (aa) by striking “scholarship
21 recipients” and inserting “stu-
22 dents participating in the pro-
23 gram”;

1 (bb) by striking “enable the
2 recipients” and inserting “enable
3 the students”; and

4 (cc) by striking “; or” and
5 inserting “; and”; and

6 (IV) by adding at the end the fol-
7 lowing:

8 “(iv) providing summer internships
9 for freshman and sophomore students par-
10 ticipating in the program; or”; and

11 (ii) in subparagraph (B)—

12 (I) in the matter preceding clause

13 (i)—

14 (aa) by striking “encourage”
15 and inserting “recruit and pre-
16 pare”; and

17 (bb) by inserting “qualified
18 as” after “to become”;

19 (II) by striking clause (ii) and in-
20 serting the following:

21 “(ii) offering academic courses and
22 clinical teaching experiences designed to
23 prepare stipend recipients to teach in ele-
24 mentary schools and secondary schools, in-
25 cluding such preparation as necessary to

1 meet requirements for teacher certification
2 or licensing;” and

3 (C) by adding at the end the following:

4 “(4) ELIGIBILITY REQUIREMENT.—To be eligi-
5 ble for an award under this section, an institution
6 of higher education (or a consortium of such institu-
7 tions) shall ensure that specific faculty members and
8 staff from the mathematics, science, or engineering
9 department of the institution (or a participating in-
10 stitution of the consortium) and specific education
11 faculty members of the institution (or such partici-
12 pating institution) are designated to carry out the
13 development and implementation of the program. An
14 institution of higher education (or consortium) may
15 also include teachers to participate in developing the
16 pedagogical content of the program and to supervise
17 students participating in the program in their field
18 teaching experiences. No institution of higher edu-
19 cation (or consortium) shall be eligible for an award
20 unless faculty from the institution’s mathematics,
21 science, or engineering department are active partici-
22 pants in the program.”;

23 (3) in subsection (b)—

24 (A) in paragraph (1)—

25 (i) in subparagraph (A)—

1 (I) by striking “scholarship or
2 stipend”;

3 (II) by inserting “and summer
4 internships” after “number of scholar-
5 ships”; and

6 (III) by inserting “the type of ac-
7 tivities proposed for the recruitment
8 of students to the program,” after
9 “intends to award,”;

10 (ii) in subparagraph (B)—

11 (I) by striking “scholarship or
12 stipend”; and

13 (II) by striking “; and” and in-
14 serting “, which may include a de-
15 scription of any existing programs at
16 the applicant’s institution that are
17 targeted to the education of science
18 and mathematics teachers and the
19 number of teachers graduated annu-
20 ally from such programs;”; and

21 (iii) by striking subparagraph (C) and
22 inserting the following:

23 “(C) a description of the academic courses
24 and clinical teaching experiences required under

1 subparagraph (A)(ii) or B)(ii) of subsection
2 (a)(3), including—

3 “(i) a description of the under-
4 graduate program that will enable a stu-
5 dent to graduate in 4 years with a major
6 in mathematics, science, or engineering
7 and to obtain teacher certification or li-
8 censing;

9 “(ii) a description of clinical teaching
10 experiences proposed; and

11 “(iii) evidence of agreements between
12 the applicant and the schools or school dis-
13 tricts that are identified as the locations at
14 which clinical teaching experiences will
15 occur;

16 “(D) a description of the programs re-
17 quired under subparagraph (A)(iii) or (B)(iii)
18 of subsection (a)(3), including activities to as-
19 sist new teachers in fulfilling their service re-
20 quirements under this section; and

21 “(E) an identification of the applicant’s
22 mathematics, science, or engineering faculty
23 and its education faculty who will carry out the
24 development and implementation of the pro-
25 gram as required under subsection (a)(4).”; and

1 (B) in paragraph (2)—

2 (i) by redesignating subparagraphs
3 (B) through (E) as subparagraphs (C)
4 through (F), respectively; and

5 (ii) by inserting after subparagraph
6 (A) the following:

7 “(B) the extent to which the applicant’s
8 mathematics, science, or engineering faculty
9 and its education faculty have worked or will
10 work collaboratively to design new or revised
11 curricula that recognize the specialized peda-
12 gogy required to teach mathematics and science
13 effectively in elementary schools and secondary
14 schools;”;

15 (4) in subsection (c)—

16 (A) in paragraph (3)—

17 (i) by striking “\$7,500” and inserting
18 “\$10,000”; and

19 (ii) by striking “of scholarship sup-
20 port” and inserting “of scholarship sup-
21 port, unless the Director establishes a pol-
22 icy by which part-time students may re-
23 ceive additional years of support”; and

1 (B) in paragraph (4), by inserting “, with
 2 a maximum service requirement of 4 years”
 3 after “was received”;
 4 (5) in subsection (d)—

5 (A) in paragraph (2), by inserting “and
 6 professional achievement” after “academic
 7 merit”; and

8 (B) in paragraph (4), by striking “for each
 9 year a stipend was received”;
 10 (6) in subsection (g)—

11 (A) in paragraph (1), by inserting “or sti-
 12 pend” after scholarship; and

13 (B) by striking paragraph (2) and insert-
 14 ing the following:

15 “(2) REPAYMENT FOR FAILURE TO COMPLETE
 16 SERVICE.—

17 “(A) LESS THAN 1 YEAR OF SERVICE.—If
 18 a circumstance described in paragraph (1) oc-
 19 curs before the completion of 1 year of a service
 20 obligation under this section, the sum of the
 21 total amount of awards received by the indi-
 22 vidual under this section shall be treated as a
 23 loan payable to the Federal Government, con-
 24 sistent with the provisions of part B or D of
 25 title IV of the Higher Education Act of 1965,

and shall be subject to repayment in accordance with terms and conditions specified by the Secretary of Education in regulations promulgated to carry out this paragraph.

“(B) 1 YEAR OR MORE OF SERVICE.—If a circumstance described in subparagraph (D) or (E) of paragraph (1) occurs after the completion of 1 year of a service obligation under this section, an amount equal to $\frac{1}{2}$ of the sum of the total amount of awards received by the individual under this section shall be treated as a loan payable to the Federal Government, consistent with the provisions of part B or D of title IV of the Higher Education Act of 1965, and shall be subject to repayment in accordance with terms and conditions specified by the Secretary of Education in regulations promulgated to carry out this paragraph.”;

(7) by redesignating subsection (i) as subsection (k);

(8) by inserting after subsection (h) the following:

“(i) SCIENCE AND MATHEMATICS SCHOLARSHIP GIFT FUND.—In accordance with section 11(f) of the National Science Foundation Act of 1950, the Director is au-

1 thorized to accept donations from the private sector to
 2 supplement, but not supplant, scholarships, stipends, or
 3 internships associated with the programs under this sec-
 4 tion.

5 “(j) ASSESSMENT OF TEACHER RETENTION.—Not
 6 later than 4 years after the date of enactment of the Na-
 7 tional Competitiveness Investment Act, the Director shall
 8 transmit to Congress a report on the effectiveness of the
 9 program carried out under this section regarding the re-
 10 tention of participants in the teaching profession beyond
 11 the service obligation required under this section.”;

12 (9) in subsection (k) (as redesignated by para-
 13 graph (7))—

14 (A) by redesignating paragraphs (2)
 15 through (5) as paragraphs (3) through (6), re-
 16 spectively;

17 (B) by inserting after paragraph (1) the
 18 following:

19 “(2) the term ‘high-need local educational agen-
 20 cy’ means a local educational agency or educational
 21 service agency (as defined in section 9101 of the El-
 22 elementary and Secondary Education Act of 1965)—

23 “(A)(i) that serves not less than 10,000
 24 children from low-income families;

1 “(ii) for which not less than 20 percent of
 2 the children served by the agency are children
 3 from low-income families; or

4 “(iii) with a total of less than 600 students
 5 in average daily attendance at the schools that
 6 are served by the agency, and all of whose
 7 schools are designated with a school locale code
 8 of 6, 7, or 8, as determined by the Secretary of
 9 Education; and

10 “(B)(i) for which there is a higher percent-
 11 age of teachers providing instruction in aca-
 12 demic subject areas or grade levels for which
 13 the teachers are not highly qualified; or

14 “(ii) for which there is a high teacher
 15 turnover rate or a high percentage of teachers
 16 with emergency, provisional, or temporary cer-
 17 tification or licensure;” and

18 (C) in paragraph (4) (as redesignated by
 19 subparagraph (A)) by inserting “or had a ca-
 20 reer” after “is working”; and

21 (10) by adding at the end the following:

22 “(1) AUTHORIZATION OF APPROPRIATIONS.—

23 “(1) IN GENERAL.—Within the amounts au-
 24 thorized to be appropriated by section 4001 of the
 25 National Competitiveness Investment Act and except

1 as provided in paragraph (2), there are authorized
2 to be appropriated to the Director for the Robert
3 Noyce Teacher Scholarship Program under this sec-
4 tion—

5 “(A) \$105,000,000 for fiscal year 2007, of
6 which at least \$15,000,000 shall be used for ca-
7 pacity building activities described in clauses
8 (ii) and (iii) of subsection (a)(3)(A) and clauses
9 (ii) and (iii) of subsection (a)(3)(B);

10 “(B) \$117,000,000 for fiscal year 2008, of
11 which at least \$18,000,000 shall be used for
12 such capacity building activities;

13 “(C) \$130,000,000 for fiscal year 2009, of
14 which at least \$21,000,000 shall be used for
15 such capacity building activities;

16 “(D) \$148,000,000 for fiscal year 2010, of
17 which at least \$24,000,000 shall be used for
18 such capacity building activities; and

19 “(E) \$200,000,000 for fiscal year 2011, of
20 which at least \$27,000,000 shall be used for
21 such capacity building activities.

22 “(2) EXCEPTION.—For any fiscal year for
23 which the funding allocated for activities under this
24 section is less than \$105,000,000, the amount of
25 funding available for capacity building activities de-

scribed in subparagraphs (A) through (E) of paragraph (1) shall not exceed 15 percent of the allocated funds.”.

(b) CONFORMING AMENDMENTS.—

(1) SECTION 4.—Section 4 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n note) is amended in the matter preceding paragraph (1) by striking “In this Act:” and inserting “Except as otherwise provided, in this Act:”.

(2) SECTION 8.—Section 8(6) of the National Science Foundation Authorization Act of 2002 (Public Law 107–368) is amended—

(A) in the paragraph heading, by inserting “TEACHER” after “NOYCE”; and

(B) by inserting “Teacher” after “Noyce”.

SEC. 4013. SENSE OF THE SENATE REGARDING THE MATHEMATICS AND SCIENCE PARTNERSHIP PROGRAMS OF THE DEPARTMENT OF EDUCATION AND THE NATIONAL SCIENCE FOUNDATION.

It is the sense of the Senate that—

(1) although the mathematics and science education partnership program at the National Science Foundation and the mathematics and science partnership program at the Department of Education

1 practically share the same name, the 2 programs are
 2 intended to be complementary, not duplicative;

3 (2) the National Science Foundation partner-
 4 ship programs are innovative, model reform initia-
 5 tives that move promising ideas in education from
 6 research into practice to improve teacher quality, de-
 7 velop challenging curricula, and increase student
 8 achievement in mathematics and science, and Con-
 9 gress intends that the National Science Foundation
 10 peer-reviewed partnership programs found to be ef-
 11 fective should be put into wider practice by dissemi-
 12 nation through the Department of Education part-
 13 nership programs; and

14 (3) the Director of the National Science Foun-
 15 dation and the Secretary of Education should have
 16 ongoing collaboration to ensure that the 2 compo-
 17 nents of this priority effort for mathematics and
 18 science education continue to work in concert for the
 19 benefit of States and local practitioners nationwide.

20 **SEC. 4014. NATIONAL SCIENCE FOUNDATION TEACHER IN-**
 21 **STITUTES FOR THE 21ST CENTURY.**

22 (a) AUTHORIZATION OF APPROPRIATIONS.—Within
 23 the amounts authorized to be appropriated by section
 24 4001, there are authorized to be appropriated to carry out
 25 the teacher institutes for the 21st century under para-

1 graphs (3) and (7) of section 9(a) of the National Science
 2 Foundation Authorization Act of 2002 (as amended by
 3 subsection (b)) (42 U.S.C. 1862n(a))—

- 4 (1) \$76,000,000 for fiscal year 2007;
- 5 (2) \$84,000,000 for fiscal year 2008;
- 6 (3) \$94,000,000 for fiscal year 2009;
- 7 (4) \$106,000,000 for fiscal year 2010; and
- 8 (5) \$140,000,000 for fiscal year 2011.

9 (b) TEACHER INSTITUTES FOR THE 21ST CEN-
 10 TURY.—Section 9(a) of the National Science Foundation
 11 Authorization Act of 2002 (42 U.S.C. 1862n(a)) is
 12 amended—

13 (1) in paragraph (3)(B), by striking “summer
 14 or” and inserting “teacher institutes for the 21st
 15 century, as described in paragraph (7),”;

16 (2) by redesignating paragraph (7) as para-
 17 graph (8); and

18 (3) by inserting after paragraph (6) the fol-
 19 lowing:

20 “(7) TEACHER INSTITUTES FOR THE 21ST CEN-
 21 TURY.—

22 “(A) IN GENERAL.—Teacher institutes for
 23 the 21st century carried out in accordance with
 24 paragraph (3)(B) shall—

1 “(i) be carried out in conjunction with
2 a school served by the local educational
3 agency in the partnership;

4 “(ii) be science, technology, engineer-
5 ing, and mathematics focused institutes
6 that provide professional development to
7 elementary school and secondary school
8 teachers during the summer;

9 “(iii) serve teachers who are consid-
10 ered highly qualified (as defined in section
11 9101 of the Elementary and Secondary
12 Education Act of 1965), teach high-need
13 subjects, and teach in high-need schools
14 (as described in section 1114(a)(1) of the
15 Elementary and Secondary Education Act
16 of 1965);

17 “(iv) focus on the theme and struc-
18 ture developed by the Director under sub-
19 paragraph (C);

20 “(v) be content-based and build on
21 school year curricula that are experiment-
22 oriented, content-based, and grounded in
23 current research;

24 “(vi) ensure that the pedagogy compo-
25 nent is designed around specific strategies

1 that are relevant to teaching the subject
2 and content on which teachers are being
3 trained, which may include training teach-
4 ers in the essential components of reading
5 instruction for adolescents in order to im-
6 prove student reading skills within the sub-
7 ject areas of science, technology, engineer-
8 ing, and mathematics;

9 “(vii) be a multiyear program that is
10 conducted for a period of not less than 2
11 weeks per year;

12 “(viii) provide for direct interaction
13 between participants in and faculty of the
14 teacher institute;

15 “(ix) have a component that includes
16 the use of the Internet;

17 “(x) provide for followup training in
18 the classroom during the academic year for
19 a period of not less than 3 days, which
20 may or may not be consecutive, for partici-
21 pants in the teacher institute, except that
22 for teachers in rural local educational
23 agencies, the followup training may be pro-
24 vided through the Internet;

1 “(xi) provide teachers participating in
2 the teacher institute with travel expense
3 reimbursement and classroom materials re-
4 lated to the teacher institute, and may in-
5 clude providing stipends as necessary; and

6 “(xii) establish a mechanism to pro-
7 vide supplemental support during the aca-
8 demic year for teacher institute partici-
9 pants to apply the knowledge and skills
10 gained at the teacher institute.

11 “(B) OPTIONAL MEMBERS OF THE PART-
12 NERSHIP.—In addition to the partnership re-
13 quirement under paragraph (2), an institution
14 of higher education or eligible nonprofit organi-
15 zation (or consortium) desiring a grant for a
16 teacher institute for the 21st century may also
17 partner with a teacher organization, museum,
18 or educational partnership organization.

19 “(C) THEME AND STRUCTURE.—Each
20 year, not later than 180 days before the appli-
21 cation deadline for a grant under this section,
22 the Director shall, in consultation with a broad
23 group of relevant education organizations, de-
24 velop a theme and structure for the teacher in-

- 1 stitutes of the 21st century supported under
- 2 paragraph (3)(B).”.

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A BILL

To invest in innovation and education to improve the competitiveness of the United States in the global economy.

SEPTEMBER 27, 2006

Read the second time and placed on the calendar