

110TH CONGRESS } <i>1st Session</i>	HOUSE OF REPRESENTATIVES SENATE	{ REPORT 110-_____
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21ST CENTURY COMPETITIVENESS ACT, 2007

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\_\_\_\_\_, 2007.—Ordered to be printed

\_\_\_\_\_  
\_\_\_\_\_, from the committee of conference,  
submitted the following

CONFERENCE REPORT

[To accompany H.R. 2272]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 2272), to invest in innovation through research and development, and to improve the competitiveness of the United States, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendment of the Senate and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment, insert the following:

**1 SECTION 1. SHORT TITLE.**

2       This Act may be cited as the “America COMPETES  
3 Act” or the “America Creating Opportunities to Meaning-  
4 fully Promote Excellence in Technology, Education, and  
5 Science Act”.

**1 SEC. 2. TABLE OF CONTENTS.**

**2** The table of contents of this Act is as follows:

- Sec. 1. Short title.
- Sec. 2. Table of contents.

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

- Sec. 1001. National Science and Technology Summit.
- Sec. 1002. Study on barriers to innovation.
- Sec. 1003. National Technology and Innovation Medal.
- Sec. 1004. Semiannual Science, Technology, Engineering, and Mathematics Days.
- Sec. 1005. Study of service science.
- Sec. 1006. President's Council on Innovation and Competitiveness.
- Sec. 1007. National coordination of research infrastructure.
- Sec. 1008. Sense of Congress on innovation acceleration research.
- Sec. 1009. Release of scientific research results.

**TITLE II—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

- Sec. 2001. NASA's contribution to innovation.
- Sec. 2002. Aeronautics.
- Sec. 2003. Basic research enhancement.
- Sec. 2004. Aging workforce issues program.
- Sec. 2005. Sense of Congress regarding NASA's undergraduate student research program.
- Sec. 2006. Use of International Space Station National Laboratory to support math and science education and competitiveness.

**TITLE III—NATIONAL INSTITUTE OF STANDARDS AND  
TECHNOLOGY**

- Sec. 3001. Authorization of appropriations.
- Sec. 3002. Amendments to the Stevenson-Wydler Technology Innovation Act of 1980.
- Sec. 3003. Manufacturing Extension Partnership.
- Sec. 3004. Institute-wide planning report.
- Sec. 3005. Report by Visiting Committee.
- Sec. 3006. Meetings of Visiting Committee on Advanced Technology.
- Sec. 3007. Collaborative manufacturing research pilot grants.
- Sec. 3008. Manufacturing Fellowship Program.
- Sec. 3009. Procurement of temporary and intermittent services.
- Sec. 3010. Malcolm Baldrige awards.

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- Sec. 3011. Report on National Institute of Standards and Technology efforts to recruit and retain early career science and engineering researchers.
- Sec. 3012. Technology Innovation Program.
- Sec. 3013. Technical amendments to the National Institute of Standards and Technology Act and other technical amendments.
- Sec. 3014. Retention of depreciation surcharge.
- Sec. 3015. Post-doctoral fellows.

TITLE IV—OCEAN AND ATMOSPHERIC PROGRAMS

- Sec. 4001. Ocean and atmospheric Research and development Program.
- Sec. 4002. NOAA ocean and atmospheric Science education Programs.
- Sec. 4003. NOAA's contribution to innovation.

TITLE V—DEPARTMENT OF ENERGY

- Sec. 5001. Short title.
- Sec. 5002. Definitions.
- Sec. 5003. Science, engineering, and mathematics education at the Department of Energy.
- Sec. 5004. Nuclear science talent expansion program for institutions of higher education.
- Sec. 5005. Hydrocarbon systems science talent expansion program for institutions of higher education.
- Sec. 5006. Department of Energy early career awards for science, engineering, and mathematics researchers.
- Sec. 5007. Authorization of appropriations for Department of Energy for basic research.
- Sec. 5008. Discovery science and engineering innovation institutes.
- Sec. 5009. Protecting America's Competitive Edge (PACE) graduate fellowship program.
- Sec. 5010. Sense of Congress regarding certain recommendations and reviews.
- Sec. 5011. Distinguished scientist program.
- Sec. 5012. Advanced Research Projects Agency—Energy.

TITLE VI—EDUCATION

- Sec. 6001. Findings.
- Sec. 6002. Definitions.

Subtitle A—Teacher Assistance

PART I—TEACHERS FOR A COMPETITIVE TOMORROW

- Sec. 6111. Purpose.
- Sec. 6112. Definitions.

- Sec. 6113. Programs for baccalaureate degrees in science, technology, engineering, mathematics, or critical foreign languages, with concurrent teacher certification.
- Sec. 6114. Programs for master's degrees in science, technology, engineering, mathematics, or critical foreign language education.
- Sec. 6115. General provisions.
- Sec. 6116. Authorization of appropriations.

PART II—ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS

- Sec. 6121. Purpose.
- Sec. 6122. Definitions.
- Sec. 6123. Advanced Placement and International Baccalaureate Programs.

PART III—PROMISING PRACTICES IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS TEACHING

- Sec. 6131. Promising practices.

Subtitle B—Mathematics

- Sec. 6201. Math Now for elementary school and middle school students program.
- Sec. 6202. Summer term education programs.
- Sec. 6203. Math skills for secondary school students.
- Sec. 6204. Peer review of State applications.

Subtitle C—Foreign Language Partnership Program

- Sec. 6301. Findings and purpose.
- Sec. 6302. Definitions.
- Sec. 6303. Program authorized.
- Sec. 6304. Authorization of appropriations.

Subtitle D—Alignment of Education Programs

- Sec. 6401. Alignment of secondary school graduation requirements with the demands of 21st century postsecondary endeavors and support for P-16 education data systems.

Subtitle E—Mathematics and Science Partnership Bonus Grants

- Sec. 6501. Mathematics and science partnership bonus grants.
- Sec. 6502. Authorization of appropriations.

TITLE VII—NATIONAL SCIENCE FOUNDATION

- Sec. 7001. Definitions.

- Sec. 7002. Authorization of appropriations.
- Sec. 7003. Reaffirmation of the merit-review process of the National Science Foundation.
- Sec. 7004. Sense of the Congress regarding the mathematics and science partnership programs of the Department of Education and the National Science Foundation.
- Sec. 7005. Curricula.
- Sec. 7006. Centers for research on learning and education improvement.
- Sec. 7007. Interdisciplinary research.
- Sec. 7008. Postdoctoral research fellows.
- Sec. 7009. Responsible conduct of research.
- Sec. 7010. Reporting of research results.
- Sec. 7011. Sharing research results.
- Sec. 7012. Funding for successful science, technology, engineering, and mathematics education programs.
- Sec. 7013. Cost sharing.
- Sec. 7014. Additional reports.
- Sec. 7015. Administrative amendments.
- Sec. 7016. National Science Board reports.
- Sec. 7017. Program Fraud Civil Remedies Act of 1986 amendment.
- Sec. 7018. Meeting critical national science needs.
- Sec. 7019. Research on innovation and inventiveness.
- Sec. 7020. Cyberinfrastructure.
- Sec. 7021. Pilot program of grants for new investigators.
- Sec. 7022. Broader impacts merit review criterion.
- Sec. 7023. Donations.
- Sec. 7024. High-performance computing and networking.
- Sec. 7025. Science, technology, engineering, and mathematics talent expansion program.
- Sec. 7026. Laboratory science pilot program.
- Sec. 7027. Study on laboratory equipment donations for schools.
- Sec. 7028. Mathematics and Science Education Partnerships amendments.
- Sec. 7029. National Science Foundation teacher institutes for the 21st century.
- Sec. 7030. Robert Noyce Teacher Scholarship Program.
- Sec. 7031. Encouraging participation.
- Sec. 7032. National Academy of Sciences report on diversity in science, technology, engineering, and mathematics fields.
- Sec. 7033. Hispanic-serving institutions undergraduate program.
- Sec. 7034. Professional science master's degree programs.
- Sec. 7035. Sense of Congress on communications training for scientists.
- Sec. 7036. Major research instrumentation.
- Sec. 7037. Limit on proposals.

#### TITLE VIII—GENERAL PROVISIONS

- Sec. 8001. Collection of data relating to trade in services.

Sec. 8002. Sense of the Senate regarding small business growth and capital markets.

Sec. 8003. Government Accountability Office review of activities, grants, and programs.

Sec. 8004. Sense of the Senate regarding anti-competitive tax policy.

Sec. 8005. Study of the provision of online degree programs.

Sec. 8006. Sense of the Senate regarding deemed exports.

Sec. 8007. Sense of the Senate regarding capital markets.

Sec. 8008. Accountability and transparency of activities authorized by this Act.

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

4 **SEC. 1001. NATIONAL SCIENCE AND TECHNOLOGY SUMMIT.**

5 (a) IN GENERAL.—Not later than 180 days after the  
6 date of the enactment of this Act, the President shall con-  
7 vene a National Science and Technology Summit to exam-  
8 ine the health and direction of the United States' science,  
9 technology, engineering, and mathematics enterprises. The  
10 Summit shall include representatives of industry, small  
11 business, labor, academia, State government, Federal re-  
12 search and development agencies, non-profit environ-  
13 mental and energy policy groups concerned with science  
14 and technology issues, and other nongovernmental organi-  
15 zations, including representatives of science, technology,  
16 and engineering organizations and associations that rep-  
17 resent individuals identified in section 33 or 34 of the

1 Science and Engineering Equal Opportunities Act (42  
2 U.S.C. 1885a or 1885b).

3 (b) REPORT.—Not later than 90 days after the date  
4 of the conclusion of the Summit, the President shall sub-  
5 mit to Congress a report on the results of the Summit.  
6 The report shall identify key research and technology chal-  
7 lenges and recommendations, including recommendations  
8 to increase the representation of individuals identified in  
9 section 33 or 34 of the Science and Engineering Equal  
10 Opportunities Act (42 U.S.C. 1885a or 1885b) in science,  
11 engineering, and technology enterprises, for areas of in-  
12 vestment for Federal research and technology programs  
13 to be carried out during the 5-year period beginning on  
14 the date the report is issued.

15 (c) ANNUAL EVALUATION.—Beginning with the  
16 President's budget submission for the fiscal year following  
17 the conclusion of the National Science and Technology  
18 Summit and for each of the following 4 budget submis-  
19 sions, the Analytical Perspectives component of the budget  
20 document that describes the Research and Development  
21 budget priorities shall include a description of how those

1 priorities relate to the conclusions and recommendations  
2 of the Summit contained in the report required under sub-  
3 section (b).

4 **SEC. 1002. STUDY ON BARRIERS TO INNOVATION.**

5 (a) IN GENERAL.—Not later than 90 days after the  
6 date of the enactment of this Act, the Director of the Of-  
7 fice of Science and Technology Policy shall enter into a  
8 contract with the National Academy of Sciences to con-  
9 duct and complete a study to identify, and to review meth-  
10 ods to mitigate, new forms of risk for businesses beyond  
11 conventional operational and financial risk that affect the  
12 ability to innovate, including studying and reviewing—

13 (1) incentive and compensation structures that  
14 could effectively encourage long-term value creation  
15 and innovation;

16 (2) methods of voluntary and supplemental dis-  
17 closure by industry of intellectual capital, innovation  
18 performance, and indicators of future valuation;

19 (3) means by which government could work  
20 with industry to enhance the legal and regulatory



1 framework to encourage the disclosures described in  
2 paragraph (2);

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

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

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

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

20 (8) incentives to encourage participation among  
21 institutions of higher education, especially those in

1 rural and underserved areas, to engage in innova-  
2 tion;

3 (9) relevant Federal regulations that may dis-  
4 courage or encourage innovation;

5 (10) all provisions of the Internal Revenue Code  
6 of 1986, including tax provisions, compliance costs,  
7 and reporting requirements, that discourage innova-  
8 tion;

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

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

15 (A) elementary school and secondary  
16 school student academic achievement on the  
17 State academic assessments required under sec-  
18 tion 1111(b)(3) of the Elementary and Sec-  
19 ondary Education Act of 1965 (20 U.S.C. 6311  
20 (b)(3)), especially in mathematics, science, and

1 reading, identified by ethnicity, race, and gen-  
2 der;

3 (B) the rate of student entrance into insti-  
4 tutions of higher education, identified by eth-  
5 nicity, race, and gender, by type of institution,  
6 and barriers to access to institutions of higher  
7 education;

8 (C) the rates of—

9 (i) students successfully completing  
10 postsecondary education programs, identi-  
11 fied by ethnicity, race, and gender; and

12 (ii) certificates, associate degrees, and  
13 baccalaureate degrees awarded in the fields  
14 of science, technology, engineering, and  
15 mathematics, identified by ethnicity, race,  
16 and gender; and

17 (D) access to, and availability of, high  
18 quality job training programs.

19 (b) REPORT REQUIRED.—Not later than 1 year after  
20 entering into the contract required by subsection (a) and  
21 4 years after entering into such contract, the National

1 Academy of Sciences shall submit to Congress a report  
2 on the study conducted under such subsection.

3 (c) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to the Office of Science  
5 and Technology Policy \$1,000,000 for fiscal year 2008 for  
6 the purpose of carrying out the study required under this  
7 section.

8 **SEC. 1003. NATIONAL TECHNOLOGY AND INNOVATION**  
9 **MEDAL.**

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

12 (1) in the section heading, by striking “**NA-**  
13 **TIONAL MEDAL**” and inserting “**NATIONAL**  
14 **TECHNOLOGY AND INNOVATION MEDAL**”; and

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

18 **SEC. 1004. SEMIANNUAL SCIENCE, TECHNOLOGY, ENGI-**  
19 **NEERING, AND MATHEMATICS DAYS.**

20 It is the sense of Congress that the Director of the  
21 Office of Science and Technology Policy should—

1           (1) encourage all elementary and middle schools  
2           to observe a Science, Technology, Engineering, and  
3           Mathematics Day twice in every school year for the  
4           purpose of bringing in science, technology, engineer-  
5           ing, and mathematics mentors to provide hands-on  
6           lessons to excite and inspire students to pursue the  
7           science, technology, engineering, and mathematics  
8           fields (including continuing education and career  
9           paths);

10          (2) initiate a program, in consultation with  
11          Federal agencies and departments, to provide sup-  
12          port systems, tools (from existing outreach offices),  
13          and mechanisms to allow and encourage Federal em-  
14          ployees with scientific, technological, engineering, or  
15          mathematical responsibilities to reach out to local  
16          classrooms on such Science, Technology, Engineer-  
17          ing, and Mathematics Days to instruct and inspire  
18          school children, focusing on real life science, tech-  
19          nology, engineering, and mathematics-related appli-  
20          cable experiences along with hands-on demonstra-  
21          tions in order to demonstrate the advantages and di-

1 rect applications of studying the science, technology,  
2 engineering, and mathematics fields; and

3 (3) promote Science, Technology, Engineering,  
4 and Mathematics Days involvement by private sector  
5 and institutions of higher education employees, in-  
6 cluding partnerships with scientific, engineering, and  
7 mathematical professional organizations representing  
8 individuals identified in section 33 or 34 of the  
9 Science and Engineering Equal Opportunities Act  
10 (42 U.S.C. 1885a or 1885b), in a manner similar to  
11 the Federal employee involvement described in para-  
12 graph (2).

13 **SEC. 1005. 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.

1           (b) STUDY.—Not later than 1 year after the date of  
2 the enactment of this Act, the Director of the Office of  
3 Science and Technology Policy shall, through the National  
4 Academy of Sciences, conduct a study and report to Con-  
5 gress on how the Federal Government should support,  
6 through research, education, and training, the emerging  
7 management and learning discipline known as service  
8 science.

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

15           (d) SERVICE SCIENCE DEFINED.—In this section,  
16 the term “service science” means curricula, training, and  
17 research programs that are designed to teach individuals  
18 to apply scientific, engineering, and management dis-  
19 ciplines that integrate elements of computer science, oper-  
20 ations research, industrial engineering, business strategy,  
21 management sciences, and social and legal sciences, in

1 order to encourage innovation in how organizations create  
2 value for customers and shareholders that could not be  
3 achieved through such disciplines working in isolation.

4 **SEC. 1006. PRESIDENT'S COUNCIL ON INNOVATION AND**  
5 **COMPETITIVENESS.**

6 (a) IN GENERAL.—The President shall establish a  
7 President's Council on Innovation and Competitiveness.

8 (b) DUTIES.—The duties of the Council shall in-  
9 clude—

10 (1) monitoring implementation of public laws  
11 and initiatives for promoting innovation, including  
12 policies related to research funding, taxation, immi-  
13 gration, trade, and education that are proposed in  
14 this Act or in any other Act;

15 (2) providing advice to the President with re-  
16 spect to global trends in competitiveness and innova-  
17 tion and allocation of Federal resources in edu-  
18 cation, job training, and technology research and de-  
19 velopment considering such global trends in competi-  
20 tiveness and innovation;



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

6           (4) identifying opportunities and making rec-  
7           ommendations for the heads of executive agencies to  
8           improve innovation, monitoring, and reporting on  
9           the implementation of such recommendations;

10          (5) developing metrics for measuring the  
11          progress of the Federal Government with respect to  
12          improving conditions for innovation, including  
13          through talent development, investment, and infra-  
14          structure improvements; and

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

17          (c) MEMBERSHIP AND COORDINATION.—

18                 (1) MEMBERSHIP.—The Council shall be com-  
19                 posed of the Secretary or head of each of the fol-  
20                 lowing:

21                         (A) The Department of Commerce.

- 1 (B) The Department of Defense.
- 2 (C) The Department of Education.
- 3 (D) The Department of Energy.
- 4 (E) The Department of Health and  
5 Human Services.
- 6 (F) The Department of Homeland Secu-  
7 rity.
- 8 (G) The Department of Labor.
- 9 (H) The Department of the Treasury.
- 10 (I) The National Aeronautics and Space  
11 Administration.
- 12 (J) The Securities and Exchange Commis-  
13 sion.
- 14 (K) The National Science Foundation.
- 15 (L) The Office of the United States Trade  
16 Representative.
- 17 (M) The Office of Management and Budg-  
18 et.
- 19 (N) The Office of Science and Technology  
20 Policy.
- 21 (O) The Environmental Protection Agency.

1 (P) The Small Business Administration.

2 (Q) Any other department or agency des-  
3 ignated by the President.

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

6 (3) COORDINATION.—The Chairperson of the  
7 Council shall ensure appropriate coordination be-  
8 tween the Council and the National Economic Coun-  
9 cil, the National Security Council, and the National  
10 Science and Technology Council.

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

16 (d) DEVELOPMENT OF INNOVATION AGENDA.—

17 (1) IN GENERAL.—The Council shall develop a  
18 comprehensive agenda for strengthening the innova-  
19 tion and competitiveness capabilities of the Federal  
20 Government, State governments, academia, and the  
21 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, including strate-  
10                  gies for increasing the participation of individ-  
11                  uals identified in section 33 or 34 of the  
12                  Science and Engineering Equal Opportunities  
13                  Act (42 U.S.C. 1885a or 1885b) in science,  
14                  technology, engineering, and mathematics  
15                  fields.

16                  (C) Recommendations for strengthening  
17                  the innovation and competitiveness capabilities  
18                  of the Federal Government, State governments,  
19                  academia, and the private sector in the United  
20                  States.

21           (3) ADVISORS.—

1           (A) RECOMMENDATION.—Not later than  
2           30 days after the date of the enactment of this  
3           Act, the National Academy of Sciences, in con-  
4           sultation with the National Academy of Engi-  
5           neering, the Institute of Medicine, and the Na-  
6           tional Research Council, shall develop and sub-  
7           mit to the President a list of 50 individuals that  
8           are recommended to serve as advisors to the  
9           Council during the development of the com-  
10          prehensive agenda required by paragraph (1).  
11          The list of advisors shall include appropriate  
12          representatives from the following:

- 13                   (i) The private sector of the economy.  
14                   (ii) Labor.  
15                   (iii) Various fields including informa-  
16                   tion technology, energy, engineering, high-  
17                   technology manufacturing, health care, and  
18                   education.  
19                   (iv) Scientific organizations.

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

4 (vi) Nongovernmental organizations,  
5 such as professional organizations, that  
6 represent individuals identified in section  
7 33 or 34 of the Science and Engineering  
8 Equal Opportunities Act (42 U.S.C. 1885a  
9 or 1885b) in the areas of science, engineer-  
10 ing, technology, and mathematics.

11 (B) DESIGNATION.—Not later than 30  
12 days after the date that the National Academy  
13 of Sciences submits the list of recommended in-  
14 dividuals to serve as advisors, the President  
15 shall designate 50 individuals to serve as advi-  
16 sors to the Council.

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

21 (4) INITIAL SUBMISSION AND UPDATES.—

1           (A) INITIAL SUBMISSION.—Not later than  
 2           1 year after the date of the enactment of this  
 3           Act, the Council shall submit to Congress and  
 4           the President the comprehensive agenda re-  
 5           quired by paragraph (1).

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

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

15         **SEC. 1007. NATIONAL COORDINATION OF RESEARCH INFRA-**  
 16                 **STRUCTURE.**

17          (a) IDENTIFICATION AND PRIORITIZATION OF DEFICI-  
 18          CIENCIES IN FEDERAL RESEARCH FACILITIES.—Each  
 19          year the Director of the Office of Science and Technology  
 20          Policy shall, through the National Science and Technology  
 21          Council, identify and prioritize the deficiencies in research

1 facilities and major instrumentation located at Federal  
2 laboratories and national user facilities at academic insti-  
3 tutions that are widely accessible for use by researchers  
4 in the United States. In prioritizing such deficiencies, the  
5 Director shall consider research needs in areas relevant  
6 to the specific mission requirements of Federal agencies.

7 (b) PLANNING FOR ACQUISITION, REFURBISHMENT,  
8 AND MAINTENANCE OF RESEARCH FACILITIES AND  
9 MAJOR INSTRUMENTATION.—The Director shall, through  
10 the National Science and Technology Council, coordinate  
11 the planning by Federal agencies for the acquisition, re-  
12 furbishment, and maintenance of research facilities and  
13 major instrumentation to address the deficiencies identi-  
14 fied under subsection (a).

15 (c) REPORT.—The Director shall submit to Congress  
16 each year, together with documents submitted to Congress  
17 in support of the budget of the President for the fiscal  
18 year beginning in such year (as submitted pursuant to sec-  
19 tion 1105 of title 31, United States Code), a report, cur-  
20 rent as of the fiscal year ending in the year before such  
21 report is submitted, setting forth the following:



1           (1) A description of the deficiencies in research  
2 infrastructure identified in accordance with sub-  
3 section (a).

4           (2) A list of projects and budget proposals of  
5 Federal research facilities, set forth by agency, for  
6 major instrumentation acquisitions that are included  
7 in the budget proposal of the President.

8           (3) An explanation of how the projects and in-  
9 strumentation acquisitions described in paragraph  
10 (2) relate to the deficiencies and priorities identified  
11 pursuant to subsection (a).

12 **SEC. 1008. SENSE OF CONGRESS ON INNOVATION ACCEL-**  
13 **ERATION RESEARCH.**

14       (a) SENSE OF CONGRESS ON SUPPORT AND PRO-  
15 MOTION OF INNOVATION IN THE UNITED STATES.—It is  
16 the sense of Congress that each Federal research agency  
17 should strive to support and promote innovation in the  
18 United States through high-risk, high-reward basic re-  
19 search projects that—

20           (1) meet fundamental technological or scientific  
21 challenges;

1           (2) involve multidisciplinary work; and

2           (3) involve a high degree of novelty.

3           (b) SENSE OF CONGRESS ON SETTING ANNUAL  
4 FUNDING GOALS FOR BASIC RESEARCH.—It is the sense  
5 of Congress that each Executive agency that funds re-  
6 search in science, technology, engineering, or mathematics  
7 should set a goal of allocating an appropriate percentage  
8 of the annual basic research budget of such agency to  
9 funding high-risk, high-reward basic research projects de-  
10 scribed in subsection (a).

11          (c) REPORT.—Each Executive agency described in  
12 subsection (b) shall submit to Congress each year, to-  
13 gether with documents submitted to Congress in support  
14 of the budget of the President for the fiscal year beginning  
15 in such year (as submitted pursuant to section 1105 of  
16 title 31, United States Code), a report describing whether  
17 a funding goal as described in subsection (b) has been es-  
18 tablished, and if such a goal has been established, the fol-  
19 lowing:

20           (1) A description of such funding goal.

1           (2) Whether such funding goal is being met by  
2           the agency.

3           (3) A description of activities supported by  
4           amounts allocated in accordance with such funding  
5           goal.

6           (d) DEFINITIONS.—In this section:

7           (1) BASIC RESEARCH.—The term “basic re-  
8           search” has the meaning given such term in the Of-  
9           fice of Management and Budget Circular No. A–11.

10          (2) EXECUTIVE AGENCY.—The term “Executive  
11          agency” has the meaning given such term in section  
12          105 of title 5, United States Code.

13 **SEC. 1009. RELEASE OF SCIENTIFIC RESEARCH RESULTS.**

14          (a) PRINCIPLES.—Not later than 90 days after the  
15          date of the enactment of this Act, the Director of the Of-  
16          fice of Science and Technology Policy, in consultation with  
17          the Director of the Office of Management and Budget and  
18          the heads of all Federal civilian agencies that conduct sci-  
19          entific research, shall develop and issue an overarching set  
20          of principles to ensure the communication and open ex-  
21          change of data and results to other agencies, policy-

1 makers, and the public of research conducted by a sci-  
2 entist employed by a Federal civilian agency and to pre-  
3 vent the intentional or unintentional suppression or distor-  
4 tion of such research findings. The principles shall encour-  
5 age the open exchange of data and results of research un-  
6 dertaken by a scientist employed by such an agency and  
7 shall be consistent with existing Federal laws, including  
8 chapter 18 of title 35, United States Code (commonly  
9 known as the “Bayh-Dole Act”). The principles shall also  
10 take into consideration the policies of peer-reviewed sci-  
11 entific journals in which Federal scientists may currently  
12 publish results.

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

1 (1) specifically address what is and what is not  
2 permitted or recommended under such policies and  
3 procedures;

4 (2) be specifically designed for each such agen-  
5 cy;

6 (3) be applied uniformly throughout each such  
7 agency; and

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

11 **TITLE II—NATIONAL AERO-**  
12 **NAUTICS AND SPACE ADMIN-**  
13 **ISTRATION**

14 **SEC. 2001. NASA'S CONTRIBUTION TO INNOVATION.**

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

1 tional Aeronautics and Space Administration's mission,  
2 including authorized activities.

3 (b) HISTORIC FOUNDATION.—In order to carry out  
4 the participation described in subsection (a), the Adminis-  
5 trator of the National Aeronautics and Space Administra-  
6 tion shall build on the historic role of the National Aero-  
7 nautics and Space Administration in stimulating excel-  
8 lence in the advancement of physical science and engineer-  
9 ing disciplines and in providing opportunities and incen-  
10 tives for the pursuit of academic studies in science, tech-  
11 nology, engineering, and mathematics.

12 (c) BALANCED SCIENCE PROGRAM AND ROBUST AU-  
13 THORIZATION LEVELS.—The balanced science program  
14 authorized by section 101(d) of the National Aeronautics  
15 and Space Administration Authorization Act of 2005 (42  
16 U.S.C. 16611) shall be an element of the contribution by  
17 the National Aeronautics and Space Administration to  
18 such interagency programs.

19 (d) SENSE OF CONGRESS ON CONTRIBUTION OF AP-  
20 PROPRIATELY FUNDED NATIONAL AERONAUTICS AND  
21 SPACE ADMINISTRATION.—It is the sense of Congress

1 that a robust National Aeronautics and Space Administra-  
2 tion, funded at the levels authorized for fiscal years 2007  
3 and 2008 under sections 202 and 203 of the National Aer-  
4 onautics and Space Administration Authorization Act of  
5 2005 (42 U.S.C. 16631 and 16632) and at appropriate  
6 levels in subsequent fiscal years—

7 (1) can contribute significantly to innovation in,  
8 and the competitiveness of, the United States;

9 (2) would enable a fair balance among science,  
10 aeronautics, education, exploration, and human  
11 space flight programs; and

12 (3) would allow full participation in any inter-  
13 agency efforts to promote innovation and economic  
14 competitiveness.

15 (e) ANNUAL REPORT.—

16 (1) REQUIREMENT.—The Administrator shall  
17 submit to Congress and the President an annual re-  
18 port describing the activities conducted pursuant to  
19 this section, including a description of the goals and  
20 the objective metrics upon which funding decisions  
21 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           (f) ASSESSMENT PLAN.—Not later than 1 year after  
10          the date of the enactment of this Act, the Administrator  
11          shall submit to Congress a report on its plan for insti-  
12          tuting assessments of the effectiveness of the National  
13          Aeronautics and Space Administration’s science, tech-  
14          nology, engineering, and mathematics education programs  
15          in improving student achievement, including with regard  
16          to challenging State achievement standards.

17   **SEC. 2002. AERONAUTICS.**

18          (a) SENSE OF CONGRESS.—It is the sense of Con-  
19          gress that the aeronautics research and development pro-  
20          gram of the National Aeronautics and Space Administra-  
21          tion has been an important contributor to innovation and



1 to the competitiveness of the United States and the Na-  
2 tional Aeronautics and Space Administration should main-  
3 tain its capabilities to advance the state of aeronautics.

4 (b) COOPERATION WITH OTHER AGENCIES ON AER-  
5 ONAUTICS ACTIVITIES.—The Administrator shall coordi-  
6 nate, as appropriate, the National Aeronautics and Space  
7 Administration’s aeronautics activities with relevant pro-  
8 grams in the Department of Transportation, the Depart-  
9 ment of Defense, the Department of Commerce, and the  
10 Department of Homeland Security, including the activities  
11 of the Joint Planning and Development Office established  
12 under section 709 of the Vision 100—Century of Aviation  
13 Reauthorization Act (Public Law 108–176; 117 Stat.  
14 2582).

15 **SEC. 2003. BASIC RESEARCH ENHANCEMENT.**

16 (a) IN GENERAL.—The Administrator of the Na-  
17 tional Aeronautics and Space Administration, the Director  
18 of the National Science Foundation, the Secretary of En-  
19 ergy, the Secretary of Defense, and Secretary of Com-  
20 merce shall, to the extent practicable, coordinate basic re-

1 search activities related to physical sciences, technology,  
2 engineering, and mathematics.

3 (b) BASIC RESEARCH DEFINED.—In this section, the  
4 term “basic research” has the meaning given such term  
5 in Office of Management and Budget Circular No. A–11.

6 **SEC. 2004. AGING WORKFORCE ISSUES PROGRAM.**

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

11 (1) documents technical and management expe-  
12 riences before senior people leave the National Aero-  
13 nautics and Space Administration, including—

14 (A) documenting lessons learned;

15 (B) briefing organizations;

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

18 (D) providing opportunities for near-term  
19 retirees to transition out early from their pri-  
20 mary assignment in order to document their ca-  
21 reer lessons learned and brief new employees

1 prior to their separation from the National Aer-  
2 onautics and Space Administration;

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

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

9 **SEC. 2005. SENSE OF CONGRESS REGARDING NASA'S UN-**  
10 **DERGRADUATE STUDENT RESEARCH PRO-**  
11 **GRAM.**

12 It is the sense of Congress that in order to generate  
13 interest in careers in science, technology, engineering, and  
14 mathematics and to help train the next generation of  
15 space and aeronautical scientists, technologists, engineers,  
16 and mathematicians the Administrator of the National  
17 Aeronautics and Space Administration should utilize the  
18 existing Undergraduate Student Research Program of the  
19 National Aeronautics and Space Administration to sup-  
20 port basic research projects on subjects of relevance to the  
21 National Aeronautics and Space Administration that—

1           (1) are to be carried out primarily by under-  
2       graduate students; and

3           (2) combine undergraduate research with other  
4       research supported by the National Aeronautics and  
5       Space Administration.

6 **SEC. 2006. USE OF INTERNATIONAL SPACE STATION NA-**  
7                           **TIONAL LABORATORY TO SUPPORT MATH**  
8                           **AND SCIENCE EDUCATION AND COMPETI-**  
9                           **TIVENESS.**

10       (a) SENSE OF CONGRESS.—It is the sense of Con-  
11       gress that the International Space Station National Lab-  
12       oratory offers unique opportunities for educational activi-  
13       ties and provides a unique resource for research and devel-  
14       opment in science, technology, and engineering, which can  
15       enhance the global competitiveness of the United States.

16       (b) DEVELOPMENT OF EDUCATIONAL PROJECTS.—  
17       The Administrator of the National Aeronautics and Space  
18       Administration shall develop a detailed plan for implemen-  
19       tation of 1 or more education projects that utilize the re-  
20       sources offered by the International Space Station. In de-  
21       veloping any detailed plan according to this paragraph, the

1 Administrator shall make use of the findings and rec-  
2 ommendations of the International Space Station National  
3 Laboratory Education Concept Development Task Force.

4 (c) DEVELOPMENT OF RESEARCH PLANS FOR COM-  
5 PETITIVENESS ENHANCEMENT.—The Administrator shall  
6 develop a detailed plan for identification and support of  
7 research to be conducted aboard the International Space  
8 Station, which offers the potential for enhancement of  
9 United States competitiveness in science, technology, and  
10 engineering. In developing any detailed plan pursuant to  
11 this subsection, the Administrator shall consult with agen-  
12 cies and entities with which cooperative agreements have  
13 been reached regarding utilization of International Space  
14 Station National Laboratory facilities.

15 **TITLE III—NATIONAL INSTITUTE**  
16 **OF STANDARDS AND TECH-**  
17 **NOLOGY**

18 **SEC. 3001. AUTHORIZATION OF APPROPRIATIONS.**

19 (a) SCIENTIFIC AND TECHNICAL RESEARCH AND  
20 SERVICES.—

1           (1) LABORATORY ACTIVITIES.—There are au-  
2           thorized to be appropriated to the Secretary of Com-  
3           merce for the scientific and technical research and  
4           services laboratory activities of the National Insti-  
5           tute of Standards and Technology—

6                   (A) \$502,100,000 for fiscal year 2008;

7                   (B) \$541,900,000 for fiscal year 2009; and

8                   (C) \$584,800,000 for fiscal year 2010.

9           (2) CONSTRUCTION AND MAINTENANCE.—  
10          There are authorized to be appropriated to the Sec-  
11          retary of Commerce for construction and mainte-  
12          nance of facilities of the National Institute of Stand-  
13          ards and Technology—

14                   (A) \$150,900,000 for fiscal year 2008;

15                   (B) \$86,400,000 for fiscal year 2009; and

16                   (C) \$49,700,000 for fiscal year 2010.

17          (b) INDUSTRIAL TECHNOLOGY SERVICES.—There  
18          are authorized to be appropriated to the Secretary of Com-  
19          merce for Industrial Technology Services activities of the  
20          National Institute of Standards and Technology—



1           (B) \$122,000,000 shall be for the Manu-  
2           facturing Extension Partnership Program  
3           under sections 25 and 26 of the National Insti-  
4           tute of Standards and Technology Act (15  
5           U.S.C. 278k and 278l), of which not more than  
6           \$4,000,000 shall be for the competitive grant  
7           program under section 25(f) of such Act; and  
8           (3) \$272,300,000 for fiscal year 2010, of  
9           which—

10           (A) \$140,500,000 shall be for the Tech-  
11           nology Innovation Program under section 28 of  
12           the National Institute of Standards and Tech-  
13           nology Act (15 U.S.C. 278n), of which at least  
14           \$40,000,000 shall be for new awards; and

15           (B) \$131,800,000 shall be for the Manu-  
16           facturing Extension Partnership Program  
17           under sections 25 and 26 of the National Insti-  
18           tute of Standards and Technology Act (15  
19           U.S.C. 278k and 278l), of which not more than  
20           \$4,000,000 shall be for the competitive grant  
21           program under section 25(f) of such Act.



1 **SEC. 3002. 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 amended—

6 (1) by striking subsections (a) through (e);

7 (2) by redesignating subsection (f) as sub-  
8 section (a);

9 (3) in subsection (a), as redesignated by para-  
10 graph (2)—

11 (A) in paragraph (1), by striking “The  
12 Secretary, acting through the Under Secretary,  
13 shall establish for fiscal year 1999” and insert-  
14 ing “Beginning in fiscal year 1999, the Sec-  
15 retary shall establish”;

16 (B) by striking “, acting through the  
17 Under Secretary,” each place it appears;

18 (C) by redesignating paragraph (6) as sub-  
19 section (b);

20 (D) by striking paragraph (7); and

1 (E) in the subsection heading, by striking  
2 “EXPERIMENTAL PROGRAM TO STIMULATE  
3 COMPETITIVE TECHNOLOGY” and inserting  
4 “PROGRAM ESTABLISHMENT”;

5 (4) in subsection (b), as redesignated by para-  
6 graph (3)(C), by striking “this subsection” and in-  
7 serting “subsection (a)”; and

8 (5) in the section heading by striking “**COM-**  
9 **MERCE AND TECHNOLOGICAL INNOVATION**”  
10 and inserting “**EXPERIMENTAL PROGRAM TO**  
11 **STIMULATE COMPETITIVE TECHNOLOGY**”.

12 (b) CONSTRUCTION.—The amendments made by sub-  
13 section (a) shall not be construed to eliminate the National  
14 Institute of Standards and Technology or the National  
15 Technical Information Service.

16 (c) CONFORMING AMENDMENTS.—

17 (1) TITLE 5, UNITED STATES CODE.—Section  
18 5314 of title 5, United States Code, is amended by  
19 striking “Under Secretary of Commerce for Tech-  
20 nology.”.

1           (2) NATIONAL INSTITUTE OF STANDARDS AND  
2           TECHNOLOGY.—The National Institute of Standards  
3           and Technology Act (15 U.S.C. 271 et seq.) is  
4           amended—

5                   (A) in section 2 of such Act (15 U.S.C.  
6                   272)—

7                           (i) in subsection (b), by striking “and,  
8                           if appropriate, through other officials,”;  
9                           and

10                           (ii) in subsection (c), by striking  
11                           “and, if appropriate, through other appro-  
12                           priate officials,”; and

13                   (B) in section 5 of such Act (15 U.S.C.  
14                   274), by striking “The Director shall have the  
15                   general” and inserting “The Director shall re-  
16                   port directly to the Secretary and shall have the  
17                   general”.

18           (3) DEFINITIONS.—Section 4 of the Stevenson-  
19           Wydler Technology Innovation Act of 1980 (15  
20           U.S.C. 3703) is amended—

1 (A) by striking paragraphs (1) and (3);  
2 and

3 (B) by redesignating paragraphs (2)  
4 through (13) as paragraphs (1) through (11),  
5 respectively.

6 (4) FUNCTIONS OF SECRETARY.—Section  
7 11(g)(1) of such Act (15 U.S.C. 3710(g)(1)) is  
8 amended by striking “through the Under Secretary,  
9 and”.

10 (5) REPEAL OF AUTHORIZATION.—Section  
11 21(a) of such Act (15 U.S.C. 3713(a)) is amended—

12 (A) in paragraph (1), by striking “sections  
13 5, 11(g), and 16” and inserting “sections 11(g)  
14 and 16”; and

15 (B) in paragraph (2), by striking  
16 “\$500,000 is authorized only for the purpose of  
17 carrying out the requirements of the Japanese  
18 technical literature program established under  
19 section 5(d) of this Act;”.

20 (6) HIGH-PERFORMANCE COMPUTING ACT OF  
21 1991.—Section 208 of the High-Performance Com-

1       puting Act of 1991 (15 U.S.C. 5528) is amended by  
2       striking subsection (e) and redesignating subsection  
3       (d) as subsection (c).

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

10 **SEC. 3003. MANUFACTURING EXTENSION PARTNERSHIP.**

11       (a) CLARIFICATION OF ELIGIBLE CONTRIBUTIONS IN  
12 CONNECTION WITH REGIONAL CENTERS RESPONSIBLE  
13 FOR IMPLEMENTING THE OBJECTIVES OF THE PRO-  
14 GRAM.—Paragraph (3) of section 25(c) of the National In-  
15 stitute of Standards and Technology Act (15 U.S.C.  
16 278k(c)(3)) is amended to read as follows:

17       “(3)(A) Any nonprofit institution, or group thereof,  
18 or consortia of nonprofit institutions, including entities ex-  
19 isting on August 23, 1988, may submit to the Secretary  
20 an application for financial support under this subsection,  
21 in accordance with the procedures established by the Sec-

1 retary and published in the Federal Register under para-  
2 graph (2).

3       “(B) In order to receive assistance under this section,  
4 an applicant for financial assistance under subparagraph  
5 (A) shall provide adequate assurances that non-Federal  
6 assets obtained from the applicant and the applicant’s  
7 partnering organizations will be used as a funding source  
8 to meet not less than 50 percent of the costs incurred for  
9 the first 3 years and an increasing share for each of the  
10 last 3 years. For purposes of the preceding sentence, the  
11 costs incurred means the costs incurred in connection with  
12 the activities undertaken to improve the management, pro-  
13 ductivity, and technological performance of small- and me-  
14 dium-sized manufacturing companies.

15       “(C) In meeting the 50 percent requirement, it is an-  
16 ticipated that a Center will enter into agreements with  
17 other entities such as private industry, universities, and  
18 State governments to accomplish programmatic objectives  
19 and access new and existing resources that will further  
20 the impact of the Federal investment made on behalf of  
21 small- and medium-sized manufacturing companies. All

1 non-Federal costs, contributed by such entities and deter-  
2 mined by a Center as programmatically reasonable and al-  
3 locable under MEP program procedures are includable as  
4 a portion of the Center's contribution.

5 “(D) Each applicant under subparagraph (A) shall  
6 also submit a proposal for the allocation of the legal rights  
7 associated with any invention which may result from the  
8 proposed Center's activities.”

9 (b) MANUFACTURING CENTER EVALUATION.—Para-  
10 graph (5) of section 25(c) of the National Institute of  
11 Standards and Technology Act (15 U.S.C. 278k(c)(5)) is  
12 amended by inserting “A Center that has not received a  
13 positive evaluation by the evaluation panel shall be notified  
14 by the panel of the deficiencies in its performance and  
15 shall be placed on probation for one year, after which time  
16 the panel shall reevaluate the Center. If the Center has  
17 not addressed the deficiencies identified by the panel, or  
18 shown a significant improvement in its performance, the  
19 Director shall conduct a new competition to select an oper-  
20 ator for the Center or may close the Center.” after “at  
21 declining levels.”

1           (c) FEDERAL SHARE.—Section 25 of the National  
2 Institute of Standards and Technology Act (15 U.S.C.  
3 278k) is amended by striking subsection (d) and inserting  
4 the following:

5           “(d) ACCEPTANCE OF FUNDS.—

6                   “(1) IN GENERAL.—In addition to such sums  
7 as may be appropriated to the Secretary and Direc-  
8 tor to operate the Centers program, the Secretary  
9 and Director also may accept funds from other Fed-  
10 eral departments and agencies and under section  
11 2(c)(7) from the private sector for the purpose of  
12 strengthening United States manufacturing.

13                   “(2) ALLOCATION OF FUNDS.—

14                           “(A) FUNDS ACCEPTED FROM OTHER FED-  
15 ERAL DEPARTMENTS OR AGENCIES.—The Di-  
16 rector shall determine whether funds accepted  
17 from other Federal departments or agencies  
18 shall be counted in the calculation of the Fed-  
19 eral share of capital and annual operating and  
20 maintenance costs under subsection (c).



1           “(B) FUNDS ACCEPTED FROM THE PRI-  
2           VATE SECTOR.—Funds accepted from the pri-  
3           vate sector under section 2(c)(7), if allocated to  
4           a Center, shall not be considered in the calcula-  
5           tion of the Federal share under subsection (c)  
6           of this section.”.

7           (d) MEP ADVISORY BOARD.—Such section 25 is fur-  
8           ther amended by adding at the end the following:

9           “(e) MEP ADVISORY BOARD.—

10           “(1) ESTABLISHMENT.—There is established  
11           within the Institute a Manufacturing Extension  
12           Partnership Advisory Board (in this subsection re-  
13           ferred to as the ‘MEP Advisory Board’).

14           “(2) MEMBERSHIP.—

15           “(A) IN GENERAL.—The MEP Advisory  
16           Board shall consist of 10 members broadly rep-  
17           resentative of stakeholders, to be appointed by  
18           the Director. At least 2 members shall be em-  
19           ployed by or on an advisory board for the Cen-  
20           ters, and at least 5 other members shall be  
21           from United States small businesses in the

1 manufacturing sector. No member shall be an  
2 employee of the Federal Government.

3 “(B) TERM.—Except as provided in sub-  
4 paragraph (C) or (D), the term of office of each  
5 member of the MEP Advisory Board shall be 3  
6 years.

7 “(C) CLASSES.—The original members of  
8 the MEP Advisory Board shall be appointed to  
9 3 classes. One class of 3 members shall have an  
10 initial term of 1 year, one class of 3 members  
11 shall have an initial term of 2 years, and one  
12 class of 4 members shall have an initial term of  
13 3 years.

14 “(D) VACANCIES.—Any member appointed  
15 to fill a vacancy occurring prior to the expira-  
16 tion of the term for which his predecessor was  
17 appointed shall be appointed for the remainder  
18 of such term.

19 “(E) SERVING CONSECUTIVE TERMS.—Any  
20 person who has completed two consecutive full  
21 terms of service on the MEP Advisory Board

1           shall thereafter be ineligible for appointment  
2           during the one-year period following the expira-  
3           tion of the second such term.

4           “(3) MEETINGS.—The MEP Advisory Board  
5           shall meet not less than 2 times annually, and pro-  
6           vide to the Director—

7                   “(A) advice on Manufacturing Extension  
8                   Partnership programs, plans, and policies;

9                   “(B) assessments of the soundness of  
10                  Manufacturing Extension Partnership plans  
11                  and strategies; and

12                  “(C) assessments of current performance  
13                  against Manufacturing Extension Partnership  
14                  program plans.

15           “(4) FEDERAL ADVISORY COMMITTEE ACT.—In  
16           discharging its duties under this subsection, the  
17           MEP Advisory Board shall function solely in an ad-  
18           visory capacity, in accordance with the Federal Advi-  
19           sory Committee Act.

20           “(5) REPORT.—The MEP Advisory Board shall  
21           transmit an annual report to the Secretary for

1 transmittal to Congress within 30 days after the  
2 submission to Congress of the President’s annual  
3 budget request in each year. Such report shall ad-  
4 dress the status of the program established pursuant  
5 to this section and comment on the relevant sections  
6 of the programmatic planning document and updates  
7 thereto transmitted to Congress by the Director  
8 under subsections (c) and (d) of section 23.”.

9 (e) MANUFACTURING EXTENSION CENTER COMPETI-  
10 TIVE GRANT PROGRAM.—Such section 25 is further  
11 amended by adding at the end the following:

12 “(f) COMPETITIVE GRANT PROGRAM.—

13 “(1) ESTABLISHMENT.—The Director shall es-  
14 tablish, within the Centers program under this sec-  
15 tion and section 26 of this Act, a program of com-  
16 petitive awards among participants described in  
17 paragraph (2) for the purposes described in para-  
18 graph (3).

19 “(2) PARTICIPANTS.—Participants receiving  
20 awards under this subsection shall be the Centers, or  
21 a consortium of such Centers.

1           “(3) PURPOSE.—The purpose of the program  
2           under this subsection is to develop projects to solve  
3           new or emerging manufacturing problems as deter-  
4           mined by the Director, in consultation with the Di-  
5           rector of the Centers program, the Manufacturing  
6           Extension Partnership Advisory Board, and small  
7           and medium-sized manufacturers. One or more  
8           themes for the competition may be identified, which  
9           may vary from year to year, depending on the needs  
10          of manufacturers and the success of previous com-  
11          petitions. These themes shall be related to projects  
12          associated with manufacturing extension activities,  
13          including supply chain integration and quality man-  
14          agement, and including the transfer of technology  
15          based on the technological needs of manufacturers  
16          and available technologies from institutions of higher  
17          education, laboratories, and other technology pro-  
18          ducing entities, or extend beyond these traditional  
19          areas.

20          “(4) APPLICATIONS.—Applications for awards  
21          under this subsection shall be submitted in such

1 manner, at such time, and containing such informa-  
2 tion as the Director shall require, in consultation  
3 with the Manufacturing Extension Partnership Advi-  
4 sory Board.

5 “(5) SELECTION.—Awards under this sub-  
6 section shall be peer reviewed and competitively  
7 awarded. The Director shall select proposals to re-  
8 ceive awards—

9 “(A) that utilize innovative or collaborative  
10 approaches to solving the problem described in  
11 the competition;

12 “(B) that will improve the competitiveness  
13 of industries in the region in which the Center  
14 or Centers are located; and

15 “(C) that will contribute to the long-term  
16 economic stability of that region.

17 “(6) PROGRAM CONTRIBUTION.—Recipients of  
18 awards under this subsection shall not be required  
19 to provide a matching contribution.”

1 **SEC. 3004. INSTITUTE-WIDE PLANNING REPORT.**

2 Section 23 of the National Institute of Standards and  
3 Technology Act (15 U.S.C. 278i) is amended by adding  
4 at the end the following:

5 “(c) **THREE-YEAR PROGRAMMATIC PLANNING DOCU-**  
6 **MENT.**—Concurrent with the submission to Congress of  
7 the President’s annual budget request in the first year  
8 after the date of enactment of this subsection, the Director  
9 shall submit to Congress a 3-year programmatic planning  
10 document for the Institute, including programs under the  
11 Scientific and Technical Research and Services, Industrial  
12 Technology Services, and Construction of Research Facili-  
13 ties functions.

14 “(d) **ANNUAL UPDATE ON THREE-YEAR PRO-**  
15 **GRAMMATIC PLANNING DOCUMENT.**—Concurrent with the  
16 submission to the Congress of the President’s annual  
17 budget request in each year after the date of enactment  
18 of this subsection, the Director shall submit to Congress  
19 an update to the 3-year programmatic planning document  
20 submitted under subsection (c), revised to cover the first  
21 3 fiscal years after the date of that update.”

1 **SEC. 3005. REPORT BY VISITING COMMITTEE.**

2 Section 10(h)(1) of the National Institute of Stand-  
3 ards and Technology Act (15 U.S.C. 278(h)(1)) is amend-  
4 ed—

5 (1) by striking “on or before January 31 in  
6 each year” and inserting “not later than 30 days  
7 after the submittal to Congress of the President’s  
8 annual budget request in each year”; and

9 (2) by adding to the end the following: “Such  
10 report also shall comment on the programmatic  
11 planning document and updates thereto submitted to  
12 Congress by the Director under subsections (c) and  
13 (d) of section 23.”.

14 **SEC. 3006. MEETINGS OF VISITING COMMITTEE ON AD-**  
15 **VANCED TECHNOLOGY.**

16 Section 10(d) of the National Institute of Standards  
17 and Technology Act (15 U.S.C. 278(d)) is amended by  
18 striking “quarterly” and inserting “twice each year”.



1 **SEC. 3007. COLLABORATIVE MANUFACTURING RESEARCH**  
2 **PILOT GRANTS.**

3 The National Institute of Standards and Technology  
4 Act is amended—

5 (1) by redesignating the first section 32 (15  
6 U.S.C. 271 note) as section 34 and moving it to the  
7 end of the Act; and

8 (2) by inserting before the section moved by  
9 paragraph (1) the following new section:

10 **“SEC. 33. COLLABORATIVE MANUFACTURING RESEARCH**  
11 **PILOT GRANTS.**

12 “(a) **AUTHORITY.—**

13 “(1) **ESTABLISHMENT.—**The Director shall es-  
14 tablish a pilot program of awards to partnerships  
15 among participants described in paragraph (2) for  
16 the purposes described in paragraph (3). Awards  
17 shall be made on a peer-reviewed, competitive basis.

18 “(2) **PARTICIPANTS.—**Such partnerships shall  
19 include at least—

20 “(A) 1 manufacturing industry partner;  
21 and

1                   “(B) 1 nonindustry partner.

2                   “(3) PURPOSE.—The purpose of the program  
3                   under this section is to foster cost-shared collabora-  
4                   tions among firms, educational institutions, research  
5                   institutions, State agencies, and nonprofit organiza-  
6                   tions to encourage the development of innovative,  
7                   multidisciplinary manufacturing technologies. Part-  
8                   nerships receiving awards under this section shall  
9                   conduct applied research to develop new manufac-  
10                  turing processes, techniques, or materials that would  
11                  contribute to improved performance, productivity,  
12                  and competitiveness of United States manufacturing,  
13                  and build lasting alliances among collaborators.

14                  “(b) PROGRAM CONTRIBUTION.—Awards under this  
15                  section shall provide for not more than one-third of the  
16                  costs of a partnership. Not more than an additional one-  
17                  third of such costs may be obtained directly or indirectly  
18                  from other Federal sources.

19                  “(c) APPLICATIONS.—Applications for awards under  
20                  this section shall be submitted in such manner, at such  
21                  time, and containing such information as the Director

1 shall require. Such applications shall describe at a min-  
2 imum—

3           “(1) how each partner will participate in devel-  
4           oping and carrying out the research agenda of the  
5           partnership;

6           “(2) the research that the grant would fund;  
7           and

8           “(3) how the research to be funded with the  
9           award would contribute to improved performance,  
10          productivity, and competitiveness of the United  
11          States manufacturing industry.

12          “(d) SELECTION CRITERIA.—In selecting applica-  
13          tions for awards under this section, the Director shall con-  
14          sider at a minimum—

15               “(1) the degree to which projects will have a  
16               broad impact on manufacturing;

17               “(2) the novelty and scientific and technical  
18               merit of the proposed projects; and

19               “(3) the demonstrated capabilities of the appli-  
20               cants to successfully carry out the proposed re-  
21               search.

1       “(e) DISTRIBUTION.—In selecting applications under  
2 this section the Director shall ensure, to the extent prac-  
3 ticable, a distribution of overall awards among a variety  
4 of manufacturing industry sectors and a range of firm  
5 sizes.

6       “(f) DURATION.—In carrying out this section, the Di-  
7 rector shall run a single pilot competition to solicit and  
8 make awards. Each award shall be for a 3-year period.”.

9       **SEC. 3008. MANUFACTURING FELLOWSHIP PROGRAM.**

10       Section 18 of the National Institute of Standards and  
11 Technology Act (15 U.S.C. 278g–1) is amended—

12               (1) by inserting “(a) IN GENERAL.—” before  
13       “The Director is authorized”; and

14               (2) by adding at the end the following new sub-  
15       section:

16       “(b) MANUFACTURING FELLOWSHIP PROGRAM.—

17               “(1) ESTABLISHMENT.—To promote the devel-  
18       opment of a robust research community working at  
19       the leading edge of manufacturing sciences, the Di-  
20       rector shall establish a program to award—

1           “(A) postdoctoral research fellowships at  
2           the Institute for research activities related to  
3           manufacturing sciences; and

4           “(B) senior research fellowships to estab-  
5           lished researchers in industry or at institutions  
6           of higher education who wish to pursue studies  
7           related to the manufacturing sciences at the In-  
8           stitute.

9           “(2) APPLICATIONS.—To be eligible for an  
10          award under this subsection, an individual shall sub-  
11          mit an application to the Director at such time, in  
12          such manner, and containing such information as  
13          the Director may require.

14          “(3) STIPEND LEVELS.—Under this subsection,  
15          the Director shall provide stipends for postdoctoral  
16          research fellowships at a level consistent with the  
17          National Institute of Standards and Technology  
18          Postdoctoral Research Fellowship Program, and sen-  
19          ior research fellowships at levels consistent with sup-  
20          port for a faculty member in a sabbatical position.”.

1 **SEC. 3009. PROCUREMENT OF TEMPORARY AND INTERMIT-**  
2 **TENT SERVICES.**

3 (a) IN GENERAL.—The Director of the National In-  
4 stitute of Standards and Technology may procure the tem-  
5 porary or intermittent services of experts or consultants  
6 (or organizations thereof) in accordance with section  
7 3109(b) of title 5, United States Code, to assist with ur-  
8 gent or short-term research projects.

9 (b) EXTENT OF AUTHORITY.—A procurement under  
10 this section may not exceed 1 year in duration, and the  
11 Director shall procure no more than 200 experts and con-  
12 sultants per year.

13 (c) SUNSET.—This section shall cease to be effective  
14 after September 30, 2010.

15 (d) REPORT TO CONGRESS.—Not later than 2 years  
16 after the date of the enactment of this Act, the Comp-  
17 troller General shall submit to the Committee on Science  
18 and Technology of the House of Representatives and the  
19 Committee on Commerce, Science, and Transportation of  
20 the Senate a report on whether additional safeguards  
21 would be needed with respect to the use of authorities

1 granted under this section if such authorities were to be  
2 made permanent.

3 **SEC. 3010. MALCOLM BALDRIGE AWARDS.**

4 Section 17(c)(3) of the Stevenson-Wydler Technology  
5 Innovation Act of 1980 (15 U.S.C. 3711a(c)(3)) is amend-  
6 ed to read as follows:

7 “(3) In any year, not more than 18 awards may be  
8 made under this section to recipients who have not pre-  
9 viously received an award under this section, and no award  
10 shall be made within any category described in paragraph  
11 (1) if there are no qualifying enterprises in that cat-  
12 egory.”.

13 **SEC. 3011. REPORT ON NATIONAL INSTITUTE OF STAND-**  
14 **ARDS AND TECHNOLOGY EFFORTS TO RE-**  
15 **CRUIT AND RETAIN EARLY CAREER SCIENCE**  
16 **AND ENGINEERING RESEARCHERS.**

17 Not later than 3 months after the date of the enact-  
18 ment of this Act, the Director of the National Institute  
19 of Standards and Technology shall submit to the Com-  
20 mittee on Science and Technology of the House of Rep-  
21 resentatives and to the Committee on Commerce, Science,

1 and Transportation of the Senate a report on efforts to  
2 recruit and retain young scientists and engineers at the  
3 early stages of their careers at the National Institute of  
4 Standards and Technology laboratories and joint insti-  
5 tutes. The report shall include—

6 (1) a description of National Institute of Stand-  
7 ards and Technology policies and procedures, includ-  
8 ing financial incentives, awards, promotions, time set  
9 aside for independent research, access to equipment  
10 or facilities, and other forms of recognition, designed  
11 to attract and retain young scientists and engineers;

12 (2) an evaluation of the impact of these incen-  
13 tives on the careers of young scientists and engi-  
14 neers at the National Institute of Standards and  
15 Technology, and also on the quality of the research  
16 at the National Institute of Standards and Tech-  
17 nology's laboratories and in the National Institute of  
18 Standards and Technology's programs;

19 (3) a description of what barriers, if any, exist  
20 to efforts to recruit and retain young scientists and  
21 engineers, including limited availability of full time



1 equivalent positions, legal and procedural require-  
2 ments, and pay grading systems; and

3 (4) the amount of funding devoted to efforts to  
4 recruit and retain young researchers and the source  
5 of such funds.

6 **SEC. 3012. TECHNOLOGY INNOVATION PROGRAM.**

7 (a) REPEAL OF ADVANCED TECHNOLOGY PRO-  
8 GRAM.—Section 28 of the National Institute of Standards  
9 and Technology Act (15 U.S.C. 278n) is repealed.

10 (b) ESTABLISHMENT OF TECHNOLOGY INNOVATION  
11 PROGRAM.—The National Institute of Standards and  
12 Technology Act (15 U.S.C. 271 et seq.) is amended by  
13 inserting after section 27 the following:

14 **“SEC. 28. TECHNOLOGY INNOVATION PROGRAM.**

15 “(a) ESTABLISHMENT.—There is established within  
16 the Institute a program linked to the purpose and func-  
17 tions of the Institute, to be known as the ‘Technology In-  
18 novation Program’ for the purpose of assisting United  
19 States businesses and institutions of higher education or  
20 other organizations, such as national laboratories and non-  
21 profit research institutions, to support, promote, and ac-

1 celerate innovation in the United States through high-risk,  
2 high-reward research in areas of critical national need.

3 “(b) EXTERNAL FUNDING.—

4 “(1) IN GENERAL.—The Director shall award  
5 competitive, merit-reviewed grants, cooperative  
6 agreements, or contracts to—

7 “(A) eligible companies that are small-  
8 sized businesses or medium-sized businesses; or

9 “(B) joint ventures.

10 “(2) SINGLE COMPANY AWARDS.—No award  
11 given to a single company shall exceed \$3,000,000  
12 over 3 years.

13 “(3) JOINT VENTURE AWARDS.—No award  
14 given to a joint venture shall exceed \$9,000,000 over  
15 5 years.

16 “(4) FEDERAL COST SHARE.—The Federal  
17 share of a project funded by an award under the  
18 program shall not be more than 50 percent of total  
19 project costs.

20 “(5) PROHIBITIONS.—Federal funds awarded  
21 under this program may be used only for direct

1 costs and not for indirect costs, profits, or manage-  
2 ment fees of a contractor. Any business that is not  
3 a small-sized or medium-sized business may not re-  
4 ceive any funding under this program.

5 “(c) AWARD CRITERIA.—The Director shall only pro-  
6 vide assistance under this section to an entity—

7 “(1) whose proposal has scientific and technical  
8 merit and may result in intellectual property vesting  
9 in a United States entity that can commercialize the  
10 technology in a timely manner;

11 “(2) whose application establishes that the pro-  
12 posed technology has strong potential to address  
13 critical national needs through transforming the Na-  
14 tion’s capacity to deal with major societal challenges  
15 that are not currently being addressed, and generate  
16 substantial benefits to the Nation that extend sig-  
17 nificantly beyond the direct return to the applicant;

18 “(3) whose application establishes that the re-  
19 search has strong potential for advancing the state-  
20 of-the-art and contributing significantly to the

1 United States science and technology knowledge  
2 base;

3 “(4) whose proposal explains why Technology  
4 Innovation Program support is necessary, including  
5 evidence that the research will not be conducted  
6 within a reasonable time period in the absence of fi-  
7 nancial assistance under this section;

8 “(5) whose application demonstrates that rea-  
9 sonable efforts have been made to secure funding  
10 from alternative funding sources and no other alter-  
11 native funding sources are reasonably available to  
12 support the proposal; and

13 “(6) whose application explains the novelty of  
14 the technology and demonstrates that other entities  
15 have not already developed, commercialized, mar-  
16 keted, distributed, or sold similar technologies.

17 “(d) COMPETITIONS.—The Director shall solicit pro-  
18 posals at least annually to address areas of critical na-  
19 tional need for high-risk, high-reward projects.

20 “(e) INTELLECTUAL PROPERTY RIGHTS OWNER-  
21 SHIP.—

1           “(1) IN GENERAL.—Title to any intellectual  
2           property developed by a joint venture from assist-  
3           ance provided under this section may vest in any  
4           participant in the joint venture, as agreed by the  
5           members of the joint venture, notwithstanding sec-  
6           tion 202 (a) and (b) of title 35, United States Code.  
7           The United States may reserve a nonexclusive, non-  
8           transferable, irrevocable paid-up license, to have  
9           practice for or on behalf of the United States in con-  
10          nection with any such intellectual property, but shall  
11          not in the exercise of such license publicly disclose  
12          proprietary information related to the license. Title  
13          to any such intellectual property shall not be trans-  
14          ferred or passed, except to a participant in the joint  
15          venture, until the expiration of the first patent ob-  
16          tained in connection with such intellectual property.

17          “(2) LICENSING.—Nothing in this subsection  
18          shall be construed to prohibit the licensing to any  
19          company of intellectual property rights arising from  
20          assistance provided under this section.

1           “(3) DEFINITION.—For purposes of this sub-  
2           section, the term ‘intellectual property’ means an in-  
3           vention patentable under title 35, United States  
4           Code, or any patent on such an invention, or any  
5           work for which copyright protection is available  
6           under title 17, United States Code.

7           “(f) PROGRAM OPERATION.—Not later than 9  
8           months after the date of the enactment of this section,  
9           the Director shall promulgate regulations—

10           “(1) establishing criteria for the selection of re-  
11           cipients of assistance under this section;

12           “(2) establishing procedures regarding financial  
13           reporting and auditing to ensure that awards are  
14           used for the purposes specified in this section, are  
15           in accordance with sound accounting practices, and  
16           are not funding existing or planned research pro-  
17           grams that would be conducted within a reasonable  
18           time period in the absence of financial assistance  
19           under this section; and

20           “(3) providing for appropriate dissemination of  
21           Technology Innovation Program research results.

1           “(g) ANNUAL REPORT.—The Director shall submit  
2 annually to the Committee on Commerce, Science, and  
3 Transportation of the Senate and the Committee on  
4 Science and Technology of the House of Representatives  
5 a report describing the Technology Innovation Program’s  
6 activities, including a description of the metrics upon  
7 which award funding decisions were made in the previous  
8 fiscal year, any proposed changes to those metrics, metrics  
9 for evaluating the success of ongoing and completed  
10 awards, and an evaluation of ongoing and completed  
11 awards. The first annual report shall include best prac-  
12 tices for management of programs to stimulate high-risk,  
13 high-reward research.

14           “(h) CONTINUATION OF ATP GRANTS.—The Direc-  
15 tor shall, through the Technology Innovation Program,  
16 continue to provide support originally awarded under the  
17 Advanced Technology Program, in accordance with the  
18 terms of the original award and consistent with the goals  
19 of the Technology Innovation Program.

20           “(i) COORDINATION WITH OTHER STATE AND FED-  
21 ERAL TECHNOLOGY PROGRAMS.—In carrying out this sec-

1 tion, the Director shall, as appropriate, coordinate with  
2 other senior State and Federal officials to ensure coopera-  
3 tion and coordination in State and Federal technology pro-  
4 grams and to avoid unnecessary duplication of efforts.

5       “(j) ACCEPTANCE OF FUNDS FROM OTHER FED-  
6 ERAL AGENCIES.—In addition to amounts appropriated to  
7 carry out this section, the Secretary and the Director may  
8 accept funds from other Federal agencies to support  
9 awards under the Technology Innovation Program. Any  
10 award under this section which is supported with funds  
11 from other Federal agencies shall be selected and carried  
12 out according to the provisions of this section. Funds ac-  
13 cepted from other Federal agencies shall be included as  
14 part of the Federal cost share of any project funded under  
15 this section.

16       “(k) TIP ADVISORY BOARD.—

17               “(1) ESTABLISHMENT.—There is established  
18 within the Institute a TIP Advisory Board.

19               “(2) MEMBERSHIP.—

20                       “(A) IN GENERAL.—The TIP Advisory  
21 Board shall consist of 10 members appointed by



1           the Director, at least 7 of whom shall be from  
2           United States industry, chosen to reflect the  
3           wide diversity of technical disciplines and indus-  
4           trial sectors represented in Technology Innova-  
5           tion Program projects. No member shall be an  
6           employee of the Federal Government.

7           “(B) TERM.—Except as provided in sub-  
8           paragraph (C) or (D), the term of office of each  
9           member of the TIP Advisory Board shall be 3  
10          years.

11          “(C) CLASSES.—The original members of  
12          the TIP Advisory Board shall be appointed to  
13          3 classes. One class of 3 members shall have an  
14          initial term of 1 year, one class of 3 members  
15          shall have an initial term of 2 years, and one  
16          class of 4 members shall have an initial term of  
17          3 years.

18          “(D) VACANCIES.—Any member appointed  
19          to fill a vacancy occurring prior to the expira-  
20          tion of the term for which his predecessor was

1 appointed shall be appointed for the remainder  
2 of such term.

3 “(E) SERVING CONSECUTIVE TERMS.—Any  
4 person who has completed 2 consecutive full  
5 terms of service on the TIP Advisory Board  
6 shall thereafter be ineligible for appointment  
7 during the 1-year period following the expira-  
8 tion of the second such term.

9 “(3) PURPOSE.—The TIP Advisory Board shall  
10 meet not less than 2 times annually, and provide the  
11 Director—

12 “(A) advice on programs, plans, and poli-  
13 cies of the Technology Innovation Program;

14 “(B) reviews of the Technology Innovation  
15 Program’s efforts to accelerate the research and  
16 development of challenging, high-risk, high-re-  
17 ward technologies in areas of critical national  
18 need;

19 “(C) reports on the general health of the  
20 program and its effectiveness in achieving its  
21 legislatively mandated mission; and

1                   “(D) guidance on investment areas that  
2                   are appropriate for Technology Innovation Pro-  
3                   gram funding;

4                   “(4) ADVISORY CAPACITY.—In discharging its  
5                   duties under this subsection, the TIP Advisory  
6                   Board shall function solely in an advisory capacity,  
7                   in accordance with the Federal Advisory Committee  
8                   Act.

9                   “(5) ANNUAL REPORT.—The TIP Advisory  
10                  Board shall transmit an annual report to the Sec-  
11                  retary for transmittal to the Congress not later than  
12                  30 days after the submission to Congress of the  
13                  President’s annual budget request in each year.  
14                  Such report shall address the status of the Tech-  
15                  nology Innovation Program and comment on the rel-  
16                  evant sections of the programmatic planning docu-  
17                  ment and updates thereto transmitted to Congress  
18                  by the Director under subsections (c) and (d) of sec-  
19                  tion 23.

20                  “(1) DEFINITIONS.—In this section—

1           “(1) the term ‘eligible company’ means a small-  
2           sized or medium-sized business that is incorporated  
3           in the United States and does a majority of its busi-  
4           ness in the United States, and that either—

5                   “(A) is majority owned by citizens of the  
6           United States; or

7                   “(B) is owned by a parent company incor-  
8           porated in another country and the Director  
9           finds that—

10                   “(i) the company’s participation in the  
11           Technology Innovation Program would be  
12           in the economic interest of the United  
13           States, as evidenced by—

14                   “(I) investments in the United  
15           States in research and manufacturing;

16                   “(II) significant contributions to  
17           employment in the United States; and

18                   “(III) agreement with respect to  
19           any technology arising from assistance  
20           provided under this section to promote  
21           the manufacture within the United

1 States of products resulting from that  
2 technology; and

3 “(ii) the company is incorporated in a  
4 country which—

5 “(I) affords to United States-  
6 owned companies opportunities, com-  
7 parable to those afforded to any other  
8 company, to participate in any joint  
9 venture similar to those receiving  
10 funding under this section;

11 “(II) affords to United States-  
12 owned companies local investment op-  
13 portunities comparable to those af-  
14 farded any other company; and

15 “(III) affords adequate and effec-  
16 tive protection for intellectual prop-  
17 erty rights of United States-owned  
18 companies;

19 “(2) the term ‘high-risk, high-reward research’  
20 means research that—

1           “(A) has the potential for yielding trans-  
2           formational results with far-ranging or wide-  
3           ranging implications;

4           “(B) addresses critical national needs with-  
5           in the National Institute of Standards and  
6           Technology’s areas of technical competence; and

7           “(C) is too novel or spans too diverse a  
8           range of disciplines to fare well in the tradi-  
9           tional peer-review process;

10          “(3) the term ‘institution of higher education’  
11          has the meaning given that term in section 101 of  
12          the Higher Education Act of 1965 (20 U.S.C.  
13          1001);

14          “(4) the term ‘joint venture’ means a joint ven-  
15          ture that—

16                 “(A) includes either—

17                         “(i) at least 2 separately owned for-  
18                         profit companies that are both substan-  
19                         tially involved in the project and both of  
20                         which are contributing to the cost-sharing  
21                         required under this section, with the lead

1           entity of the joint venture being one of  
2           those companies that is a small-sized or  
3           medium-sized business; or

4                   “(ii) at least 1 small-sized or medium-  
5           sized business and 1 institution of higher  
6           education or other organization, such as a  
7           national laboratory or nonprofit research  
8           institute, that are both substantially in-  
9           volved in the project and both of which are  
10          contributing to the cost-sharing required  
11          under this section, with the lead entity of  
12          the joint venture being either that small-  
13          sized or medium-sized business or that in-  
14          stitution of higher education; and

15                   “(B) may include additional for-profit com-  
16          panies, institutions of higher education, and  
17          other organizations, such as national labora-  
18          tories and nonprofit research institutes, that  
19          may or may not contribute non-Federal funds  
20          to the project; and

1           “(5) the term ‘TIP Advisory Board’ means the  
2           advisory board established under subsection (k).”.

3           (c) TRANSITION.—Notwithstanding the repeal made  
4 by subsection (a), the Director shall carry out section 28  
5 of the National Institute of Standards and Technology Act  
6 (15 U.S.C. 278n) as such section was in effect on the day  
7 before the date of the enactment of this Act, with respect  
8 to applications for grants under such section submitted  
9 before such date, until the earlier of—

10           (1) the date that the Director promulgates the  
11 regulations required under section 28(f) of the Na-  
12 tional Institute of Standards and Technology Act, as  
13 added by subsection (b); or

14           (2) December 31, 2007.

15 **SEC. 3013. TECHNICAL AMENDMENTS TO THE NATIONAL IN-**  
16 **STITUTE OF STANDARDS AND TECHNOLOGY**  
17 **ACT AND OTHER TECHNICAL AMENDMENTS.**

18           (a) RESEARCH FELLOWSHIPS.—Section 18 of the  
19 National Institute of Standards and Technology Act (15  
20 U.S.C. 278g-1) is amended by striking “up to 1 per cen-  
21 tum of the” and inserting “up to 1.5 percent of the”.



1           (b) FINANCIAL AGREEMENTS CLARIFICATION.—Sec-  
2 tion 2(b)(4) of the National Institute of Standards and  
3 Technology Act (15 U.S.C. 272(b)(4)) is amended by in-  
4 serting “and grants and cooperative agreements,” after  
5 “arrangements,”.

6           (c) OUTDATED SPECIFICATIONS.—

7           (1) REDEFINITION OF THE METRIC SYSTEM.—  
8 Section 3570 of the Revised Statutes of the United  
9 States (derived from section 2 of the Act of July 28,  
10 1866, entitled “An Act to authorize the Use of the  
11 Metric System of Weights and Measures” (15  
12 U.S.C. 205; 14 Stat. 339)) is amended to read as  
13 follows:

14 **“SEC. 3570. METRIC SYSTEM DEFINED.**

15           “The metric system of measurement shall be defined  
16 as the International System of Units as established in  
17 1960, and subsequently maintained, by the General Con-  
18 ference of Weights and Measures, and as interpreted or  
19 modified for the United States by the Secretary of Com-  
20 merce.”.

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

7           (3) STANDARD TIME.—Section 1 of the Act of  
8           March 19, 1918, (commonly known as the “Calder  
9           Act”) (15 U.S.C. 261) is amended—

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

12           (B) by striking the second sentence and  
13           the extra period after it and inserting “Except  
14           as provided in section 3(a) of the Uniform Time  
15           Act of 1966 (15 U.S.C. 260a), the standard  
16           time of the first zone shall be Coordinated Uni-  
17           versal Time retarded by 4 hours; that of the  
18           second zone retarded by 5 hours; that of the  
19           third zone retarded by 6 hours; that of the  
20           fourth zone retarded by 7 hours; that of the  
21           fifth zone retarded 8 hours; that of the sixth

1           zone retarded by 9 hours; that of the seventh  
2           zone retarded by 10 hours; that of the eighth  
3           zone retarded by 11 hours; and that of the  
4           ninth zone shall be Coordinated Universal Time  
5           advanced by 10 hours.”; and

6                   (C) by adding at the end the following:

7           “(b) COORDINATED UNIVERSAL TIME DEFINED.—In  
8 this section, the term ‘Coordinated Universal Time’ means  
9 the time scale maintained through the General Conference  
10 of Weights and Measures and interpreted or modified for  
11 the United States by the Secretary of Commerce in coordi-  
12 nation with the Secretary of the Navy.”.

13                   (4) IDAHO TIME ZONE.—Section 3 of the Act of  
14 March 19, 1918, (commonly known as the “Calder  
15 Act”) (15 U.S.C. 264) is amended by striking “third  
16 zone” and inserting “fourth zone”.

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

1 **SEC. 3014. RETENTION OF DEPRECIATION SURCHARGE.**

2 Section 14 of the National Institute of Standards and  
3 Technology Act (15 U.S.C. 278d) is amended—

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

6 (2) by adding at the end the following:

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

13 **SEC. 3015. POST-DOCTORAL FELLOWS.**

14 Section 19 of the National Institute of Standards and  
15 Technology Act (15 U.S.C. 278g–2) is amended by strik-  
16 ing “nor more than 60 new fellows” and inserting “nor  
17 more than 120 new fellows”.

1                   **TITLE IV—OCEAN AND**  
2                   **ATMOSPHERIC PROGRAMS**

3   **SEC. 4001. OCEAN AND ATMOSPHERIC RESEARCH AND DE-**  
4                   **VELOPMENT PROGRAM.**

5           The Administrator of the National Oceanic and At-  
6   mospheric Administration, in consultation with the Direc-  
7   tor of the National Science Foundation and the Adminis-  
8   trator of the National Aeronautics and Space Administra-  
9   tion, shall establish a coordinated program of ocean, coast-  
10   al, Great Lakes, and atmospheric research and develop-  
11   ment, in collaboration with academic institutions and  
12   other nongovernmental entities, that shall focus on the de-  
13   velopment of advanced technologies and analytical meth-  
14   ods that will promote United States leadership in ocean  
15   and atmospheric science and competitiveness in the ap-  
16   plied uses of such knowledge.

17   **SEC. 4002. NOAA OCEAN AND ATMOSPHERIC SCIENCE EDU-**  
18                   **CATION PROGRAMS.**

19           (a) **IN GENERAL.**—The Administrator of the Na-  
20   tional Oceanic and Atmospheric Administration shall con-  
21   duct, develop, support, promote, and coordinate formal

1 and informal educational activities at all levels to enhance  
2 public awareness and understanding of ocean, coastal,  
3 Great Lakes, and atmospheric science and stewardship by  
4 the general public and other coastal stakeholders, includ-  
5 ing underrepresented groups in ocean and atmospheric  
6 science and policy careers. In conducting those activities,  
7 the Administrator shall build upon the educational pro-  
8 grams and activities of the agency.

9 (b) NOAA SCIENCE EDUCATION PLAN.—The Ad-  
10 ministrator, appropriate National Oceanic and Atmos-  
11 pheric Administration programs, ocean atmospheric  
12 science and education experts, and interested members of  
13 the public shall develop a science education plan setting  
14 forth education goals and strategies for the Administra-  
15 tion, as well as programmatic actions to carry out such  
16 goals and priorities over the next 20 years, and evaluate  
17 and update such plan every 5 years.

18 (c) CONSTRUCTION.—Nothing in this section may be  
19 construed to affect the application of section 438 of the  
20 General Education Provisions Act (20 U.S.C. 1232a) or

1 sections 504 and 508 of the Rehabilitation Act of 1973  
2 (29 U.S.C. 794 and 794d).

3 **SEC. 4003. NOAA'S CONTRIBUTION TO INNOVATION.**

4 (a) PARTICIPATION IN INTERAGENCY ACTIVITIES.—  
5 The National Oceanic and Atmospheric Administration  
6 shall be a full participant in any interagency effort to pro-  
7 mote innovation and economic competitiveness through  
8 near-term and long-term basic scientific research and de-  
9 velopment and the promotion of science, technology, engi-  
10 neering, and mathematics education, consistent with the  
11 agency mission, including authorized activities.

12 (b) HISTORIC FOUNDATION.—In order to carry out  
13 the participation described in subsection (a), the Adminis-  
14 trator of the National Oceanic and Atmospheric Adminis-  
15 tration shall build on the historic role of the National Oce-  
16 anic and Atmospheric Administration in stimulating excel-  
17 lence in the advancement of ocean and atmospheric science  
18 and engineering disciplines and in providing opportunities  
19 and incentives for the pursuit of academic studies in  
20 science, technology, engineering, and mathematics.

1           **TITLE V—DEPARTMENT OF**  
2                                   **ENERGY**

3   **SEC. 5001. SHORT TITLE.**

4           This title may be cited as the “Protecting America’s  
5 Competitive Edge Through Energy Act” or the “PACE–  
6 Energy Act”.

7   **SEC. 5002. DEFINITIONS.**

8           In this title:

9                   (1) DEPARTMENT.—The term “Department”  
10           means the Department of Energy.

11                   (2) INSTITUTION OF HIGHER EDUCATION.—The  
12           term “institution of higher education” has the  
13           meaning given the term in section 101(a) of the  
14           Higher Education Act of 1965 (20 U.S.C. 1001(a)).

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

19                   (4) SECRETARY.—The term “Secretary” means  
20           the Secretary of Energy.



1 **SEC. 5003. SCIENCE, ENGINEERING, AND MATHEMATICS**  
2 **EDUCATION AT THE DEPARTMENT OF EN-**  
3 **ERGY.**

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

7 (1) by redesignating subsections (b), (c), and  
8 (d) as subsections (e), (d), and (f), respectively;

9 (2) by inserting after subsection (a) the fol-  
10 lowing:

11 “(b) ORGANIZATION OF SCIENCE, ENGINEERING,  
12 AND MATHEMATICS EDUCATION PROGRAMS.—

13 “(1) DIRECTOR OF SCIENCE, ENGINEERING,  
14 AND MATHEMATICS EDUCATION.—Notwithstanding  
15 any other provision of law, the Secretary, acting  
16 through the Under Secretary for Science (referred to  
17 in this subsection as the ‘Under Secretary’), shall  
18 appoint a Director of Science, Engineering, and  
19 Mathematics Education (referred to in this sub-  
20 section as the ‘Director’) with the principal responsi-  
21 bility for administering science, engineering, and

1 mathematics education programs across all functions  
2 of the Department.

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

9 “(3) DUTIES.—The Director shall—

10 “(A) oversee all science, engineering, and  
11 mathematics education programs of the Depart-  
12 ment;

13 “(B) represent the Department as the  
14 principal interagency liaison for all science, en-  
15 gineering, and mathematics education pro-  
16 grams, unless otherwise represented by the Sec-  
17 retary or the Under Secretary;

18 “(C) prepare the annual budget and advise  
19 the Under Secretary on all budgetary issues for  
20 science, engineering, and mathematics edu-  
21 cation programs of the Department;

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

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

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

15          “(5) ASSESSMENT.—

16          “(A) IN GENERAL.—The Secretary shall  
17          offer to enter into a contract with the National  
18          Academy of Sciences under which the National  
19          Academy, not later than 5 years after, and not  
20          later than 10 years after, the date of enactment  
21          of this paragraph, shall assess the performance

1 of the science, engineering, and mathematics  
2 education programs of the Department.

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

10 “(6) AUTHORIZATION OF APPROPRIATIONS.—  
11 There are authorized to be appropriated such sums  
12 as are necessary to carry out this subsection.”; and

13 (3) by striking subsection (d) (as redesignated  
14 by paragraph (1)) and inserting the following:

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

1           “(e) ANNUAL PLAN FOR ALLOCATION OF EDU-  
2    CATION FUNDING.—The Secretary shall submit to Con-  
3    gress as part of the annual budget submission for a fiscal  
4    year a report describing the manner in which the Depart-  
5    ment has complied with subsection (d) for the prior fiscal  
6    year and the manner in which the Department proposes  
7    to comply with subsection (d) during the following fiscal  
8    year, including—

9           “(1) the total amount of funding for research,  
10    development, demonstration, and commercial appli-  
11    cation activities for the corresponding fiscal year;

12           “(2) the amounts set aside for the Science, En-  
13    gineering, and Mathematics Education Fund under  
14    subsection (d) from funding for research activities,  
15    development activities, demonstration activities, and  
16    commercial application activities for the cor-  
17    responding fiscal year; and

18           “(3) a description of how the funds set aside  
19    under subsection (d) were allocated for the prior fis-  
20    cal year and will be allocated for the following fiscal  
21    year.”.

1 (b) CONSULTATION.—The Secretary shall—

2 (1) consult with the Secretary of Education and  
3 the Director of the National Science Foundation re-  
4 garding activities authorized under subpart B of the  
5 Department of Energy Science Education Enhance-  
6 ment Act (as added by subsection (d)(3)) to improve  
7 science and mathematics education; and

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

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

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

19 (d) SCIENCE, ENGINEERING, AND MATHEMATICS  
20 EDUCATION PROGRAMS.—The Department of Energy

1 Science Education Enhancement Act (42 U.S.C. 7381 et  
2 seq.) is amended—

3 (1) by inserting after section 3162 (42 U.S.C.  
4 7381) the following:

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

6 (2) in section 3169 (42 U.S.C. 7381e), by strik-  
7 ing “part” and inserting “subpart”; and

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

9 **“Subpart B—Science, Engineering, and Mathematics**  
10 **Education Programs**

11 **“SEC. 3170. DEFINITIONS.**

12 “In this subpart:

13 “(1) DIRECTOR.—The term ‘Director’ means  
14 the Director of Science, Engineering, and Mathe-  
15 matics Education.

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

1 **“CHAPTER 1—PILOT PROGRAM OF**  
2 **GRANTS TO SPECIALTY SCHOOLS FOR**  
3 **SCIENCE AND MATHEMATICS**

4 **“SEC. 3171. PILOT PROGRAM OF GRANTS TO SPECIALTY**  
5 **SCHOOLS FOR SCIENCE AND MATHEMATICS.**

6 “(a) PURPOSE.—The purpose of this section is to es-  
7 tablish a pilot program of grants to States to help estab-  
8 lish or expand public, statewide specialty secondary  
9 schools that provide comprehensive science and mathe-  
10 matics (including technology and engineering) education  
11 to improve the academic achievement of students in  
12 science and mathematics.

13 “(b) DEFINITION OF SPECIALTY SCHOOL FOR  
14 SCIENCE AND MATHEMATICS.—In this chapter, the term  
15 ‘specialty school for science and mathematics’ means a  
16 public secondary school (including a school that provides  
17 residential services to students) that—

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

20 “(2) offers to those students a high-quality,  
21 comprehensive science and mathematics (including



1       technology and engineering) curriculum designed to  
2       improve the academic achievement of students in  
3       science and mathematics.

4       “(c) PILOT PROGRAM AUTHORIZED.—

5               “(1) IN GENERAL.—From the amounts author-  
6       ized under subsection (i), the Secretary (acting  
7       through the Director and in consultation with the  
8       Director of the National Science Foundation) shall  
9       award grants, on a competitive basis, to States in  
10      order to provide assistance to the States for the  
11      costs of establishing or expanding public, statewide  
12      specialty schools for science and mathematics.

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

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



1 receive funding for more than 1 specialty school  
2 for science and mathematics for a fiscal year.

3 “(B) MAXIMUM AMOUNT AND DURATION  
4 OF GRANTS.—A grant awarded to a State for a  
5 specialty school for science and mathematics  
6 under this section—

7 “(i) shall not exceed \$2,000,000 for a  
8 fiscal year; and

9 “(ii) shall not be provided for more  
10 than 3 fiscal years.

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

12 “(1) FEDERAL SHARE.—The Federal share of  
13 the costs described in subsection (c)(1) shall not ex-  
14 ceed 33 percent.

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

18 “(A) not less than 67 percent; and

19 “(B) provided from non-Federal sources,  
20 in cash or in kind, fairly evaluated, including  
21 services.

1           “(e) APPLICATION.—To be eligible to receive a grant  
2 under this section, a State shall submit to the Director  
3 an application at such time, in such manner, and con-  
4 taining such information as the Director may require that  
5 describes—

6           “(1) the process by which and selection criteria  
7 with which the State will select and designate a  
8 school as a specialty school for science and mathe-  
9 matics in accordance with this section;

10           “(2) how the State will ensure that funds made  
11 available under this section are used to establish or  
12 expand a specialty school for science and mathe-  
13 matics—

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

16           “(B) that has the capacity to improve the  
17 academic achievement of all students in all core  
18 academic subjects, and particularly in science  
19 and mathematics;

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

1       ment on State academic achievement standards in  
2       science, mathematics, and, to the maximum extent  
3       applicable, technology and engineering;

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

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

9           “(6) how the State will use technical assistance  
10       and support from the Department, including the Na-  
11       tional Laboratories, and other entities with experi-  
12       ence and expertise in science, technology, engineer-  
13       ing, and mathematics education, including institu-  
14       tions of higher education.

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

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

20           “(2) provide equal consideration to States with-  
21       out National Laboratories.

1       “(g) USES OF FUNDS.—

2               “(1) REQUIREMENT.—A State that receives a  
3 grant under this section shall use the funds made  
4 available through the grant to—

5                       “(A) employ proven strategies and meth-  
6 ods for improving student learning and teaching  
7 in science, technology, engineering, and mathe-  
8 matics;

9                       “(B) integrate into the curriculum of the  
10 school comprehensive science and mathematics  
11 education, including instruction and assess-  
12 ments in science, mathematics, and to the ex-  
13 tent applicable, technology and engineering that  
14 are aligned with the academic content and stu-  
15 dent academic achievement standards of the  
16 State (within the meaning of section 1111 of  
17 the Elementary and Secondary Education Act  
18 of 1965 (20 U.S.C. 6311));

19                       “(C) create opportunities for enhanced and  
20 ongoing professional development for teachers  
21 that improves the science, technology, engineer-

1 ing, and mathematics content knowledge of the  
2 teachers; and

3 “(D) design and implement hands-on lab-  
4 oratory experiences to help prepare students to  
5 pursue postsecondary studies in science, tech-  
6 nology, engineering, and mathematics fields.

7 “(2) SPECIAL RULE.—Grant funds under this  
8 section may be used for activities described in para-  
9 graph (1) only if the activities are directly relating  
10 to improving student academic achievement in  
11 science, mathematics, and to the extent applicable,  
12 technology and engineering.

13 “(h) EVALUATION AND REPORT.—

14 “(1) STATE EVALUATION AND REPORT.—

15 “(A) EVALUATION.—Each State that re-  
16 ceives a grant under this section shall develop  
17 and carry out an evaluation and accountability  
18 plan for the activities funded through the grant  
19 that measures the impact of the activities, in-  
20 cluding measurable objectives for improved stu-  
21 dent academic achievement on State science,

1           mathematics, and, to the maximum extent ap-  
2           plicable, technology and engineering assess-  
3           ments.

4           “(B) REPORT.—The State shall submit to  
5           the Director a report containing the results of  
6           the evaluation and accountability plan.

7           “(2) REPORT TO CONGRESS.—Not later than 2  
8           years after the date of enactment of the PACE–En-  
9           ergy Act, the Director shall submit a report detailing  
10          the impact of the activities assisted with funds made  
11          available under this section to—

12           “(A) the Committee on Science and Tech-  
13           nology of the House of Representatives;

14           “(B) the Committee on Energy and Nat-  
15           ural Resources of the Senate; and

16           “(C) the Committee on Health, Education,  
17           Labor, and Pensions of the Senate.

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

21           “(1) \$14,000,000 for fiscal year 2008;



1 “(2) \$22,500,000 for fiscal year 2009; and

2 “(3) \$30,000,000 for fiscal year 2010.

3 **“CHAPTER 2—EXPERIENTIAL-BASED**  
4 **LEARNING OPPORTUNITIES**

5 **“SEC. 3175. EXPERIENTIAL-BASED LEARNING OPPORTUNI-**  
6 **TIES.**

7 “(a) INTERNSHIPS AUTHORIZED.—

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

13 “(A) provide the students with internships  
14 at the National Laboratories;

15 “(B) promote experiential, hands-on learn-  
16 ing in science, technology, engineering, or math-  
17 ematics; and

18 “(C) be of at least 2 weeks in duration.

19 “(2) RESIDENTIAL SERVICES.—The Director  
20 may provide residential services to students partici-

1       pating in the internship program authorized under  
2       paragraph (1).

3       “(b) SELECTION CRITERIA.—

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

8               “(2) PARTICIPATION.—The Director shall en-  
9       sure the participation of students from a wide dis-  
10      tribution of States, including States without Na-  
11      tional Laboratories.

12              “(3) STUDENT ACHIEVEMENT.—The Director  
13      may consider the academic achievement of middle  
14      and secondary school students in determining eligi-  
15      bility under this section, in accordance with para-  
16      graphs (1) and (2).

17      “(c) PRIORITY.—

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

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

4           “(ii) that is designated with a school locale  
5           code of 41, 42, or 43, as determined by the  
6           Secretary of Education; and

7           “(B) for which there is—

8           “(i) a high percentage of teachers who  
9           are not teaching in the academic subject  
10          areas or grade levels in which the teachers  
11          were trained to teach;

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

13          “(iii) a high percentage of teachers  
14          with emergency, provisional, or temporary  
15          certification or licenses.

16          “(2) COORDINATION.—The Director shall con-  
17          sult with the Secretary of Education in order to de-  
18          termine whether a student meets the priority re-  
19          quirements of this subsection.

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

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

14          “(2) COMMUNITY INVOLVEMENT.—The Sec-  
15          retary shall ensure that the programs established  
16          under paragraph (1) involve, to the maximum extent  
17          practicable—

18                  “(A) participation by parents and edu-  
19                  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          \$7,500,000 for each of fiscal years 2008 through 2010.

1 **“CHAPTER 3—NATIONAL LABORATORIES**  
2 **CENTERS OF EXCELLENCE IN**  
3 **SCIENCE, TECHNOLOGY, ENGINEER-**  
4 **ING, AND MATHEMATICS EDUCATION**

5 **“SEC. 3181. NATIONAL LABORATORIES CENTERS OF EXCEL-**  
6 **LENCE IN SCIENCE, TECHNOLOGY, ENGI-**  
7 **NEERING, AND MATHEMATICS EDUCATION.**

8 “(a) DEFINITION OF HIGH-NEED PUBLIC SEC-  
9 ONDARY SCHOOL.—In this section, the term ‘high-need  
10 public secondary school’ means a secondary school—

11 “(1) with a high concentration of low-income  
12 individuals (as defined in section 1707 of the Ele-  
13 mentary and Secondary Education Act of 1965 (20  
14 U.S.C. 6537)); or

15 “(2) designated with a school locale code of 41,  
16 42, or 43, as determined by the Secretary of Edu-  
17 cation.

18 “(b) ESTABLISHMENT.—The Secretary shall estab-  
19 lish at each of the National Laboratories a program to  
20 support a Center of Excellence in Science, Technology,  
21 Engineering, and Mathematics (referred to in this section

1 as a ‘Center of Excellence’) in at least 1 high-need public  
2 secondary school located in the region served by the Na-  
3 tional Laboratory to provide assistance in accordance with  
4 subsection (f).

5 “(c) COLLABORATION.—

6 “(1) IN GENERAL.—To comply with subsection  
7 (g), each high-need public secondary school selected  
8 as a Center of Excellence and the National Labora-  
9 tory shall form a partnership with a school, depart-  
10 ment, or program of education at an institution of  
11 higher education.

12 “(2) NONPROFIT ENTITIES.—The partnership  
13 may include a nonprofit entity with demonstrated  
14 experience and effectiveness in science or mathe-  
15 matics, as agreed to by other members of the part-  
16 nership.

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 for  
21 Centers of Excellence.

1           “(2) PROCESS.—A National Laboratory shall  
2           select a site for a Center of Excellence through an  
3           open, widely-publicized, and competitive process.

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

7           “(f) ASSISTANCE.—Consistent with sections 3165  
8           and 3166, the Director shall make available necessary as-  
9           sistance for a program established under this section  
10          through the use of scientific and engineering staff of a  
11          National Laboratory, including the use of staff—

12           “(1) to assist teachers in teaching a course at  
13          a Center of Excellence in Science, Technology, Engi-  
14          neering, and Mathematics; and

15           “(2) to use National Laboratory scientific  
16          equipment in the teaching of the course.

17          “(g) SPECIAL RULES.—A Center of Excellence in a  
18          region shall ensure—

19           “(1) provision of clinical practicum, student  
20          teaching, or internship experiences for science, tech-  
21          nology, and mathematics teacher candidates as part



1 of the teacher preparation program of the Center of  
2 Excellence;

3 “(2) provision of supervision and mentoring for  
4 teacher candidates in the teacher preparation pro-  
5 gram; and

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

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

13 “(i) PLAN.—The Director shall—

14 “(1) develop an evaluation and accountability  
15 plan for the activities funded under this section that  
16 objectively measures the impact of the activities; and

17 “(2) disseminate information obtained from  
18 those measurements.

19 “(j) NO EFFECT ON SIMILAR PROGRAMS.—Nothing  
20 in this section displaces or otherwise affects any similar  
21 program being carried out as of the date of enactment

1 of this section at any National Laboratory under any other  
2 provision of law.

3 **“CHAPTER 4—SUMMER INSTITUTES**

4 **“SEC. 3185. SUMMER INSTITUTES.**

5 “(a) DEFINITIONS.—In this section:

6 “(1) ELIGIBLE PARTNER.—The term ‘eligible  
7 partner’ means—

8 “(A) the science, engineering, or mathe-  
9 matics department at an institution of higher  
10 education, acting in coordination with a school,  
11 department, or program of education at an in-  
12 stitution of higher education that provides  
13 training for teachers and principals; or

14 “(B) a nonprofit entity with expertise in  
15 providing professional development for science,  
16 technology, engineering, or mathematics teach-  
17 ers.

18 “(2) SUMMER INSTITUTE.—The term ‘summer  
19 institute’ means an institute, operated during the  
20 summer, that—

1           “(A) is hosted by a National Laboratory or  
2           an eligible partner;

3           “(B) is operated for a period of not less  
4           than 2 weeks;

5           “(C) includes, as a component, a program  
6           that provides direct interaction between stu-  
7           dents and faculty, including personnel of 1 or  
8           more National Laboratories who have scientific  
9           expertise;

10          “(D) provides for follow-up training, dur-  
11          ing the academic year, that is conducted in the  
12          classroom; and

13          “(E) provides hands-on science, tech-  
14          nology, engineering, or mathematics laboratory  
15          experience for not less than 2 days.

16          “(b) SUMMER INSTITUTE PROGRAMS AUTHOR-  
17          IZED.—

18          “(1) PROGRAMS AT THE NATIONAL LABORA-  
19          TORIES.—The Secretary, acting through the Direc-  
20          tor, shall establish or expand programs of summer  
21          institutes at each of the National Laboratories to

1 provide additional training to strengthen the science,  
2 technology, engineering, and mathematics teaching  
3 skills of teachers employed at public schools for kin-  
4 dergarten through grade 12, in accordance with the  
5 activities authorized under paragraphs (3) and (4).

6 “(2) PROGRAMS WITH ELIGIBLE PARTNERS.—

7 “(A) IN GENERAL.—The Secretary, acting  
8 through the Director, shall identify and provide  
9 assistance as described in subparagraph (C) to  
10 eligible partners to establish or expand pro-  
11 grams of summer institutes that provide addi-  
12 tional training to strengthen the science, tech-  
13 nology, engineering, and mathematics teaching  
14 skills of teachers employed at public schools for  
15 kindergarten through grade 12, in accordance  
16 with paragraphs (3) and (4).

17 “(B) SELECTION CRITERIA.—In identi-  
18 fying eligible partners under subparagraph (A),  
19 the Secretary shall require that partner institu-  
20 tions describe—

1           “(i) how the partner institution has  
2           the capability to administer the program in  
3           accordance with this section, which may in-  
4           clude a description of any existing pro-  
5           grams at the institution of the applicant  
6           that are targeted at education of science  
7           and mathematics teachers and the number  
8           of teachers graduated annually from the  
9           programs; and

10           “(ii) how the partner institution will  
11           assist the National Laboratory in carrying  
12           out the activities described in paragraphs  
13           (3) and (4).

14           “(C) ASSISTANCE.—Consistent with sec-  
15           tions 3165 and 3166, the Director shall make  
16           available funds authorized under this section to  
17           carry out a program using scientific and engi-  
18           neering staff of the National Laboratories, dur-  
19           ing which the staff—

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



1           “(D) supplemental and follow-up profes-  
2           sional development activities as described in  
3           subsection (a)(2)(D).

4           “(4) ADDITIONAL USES OF FUNDS.—Funds au-  
5           thorized under this section may be used for—

6           “(A) training and classroom materials to  
7           assist in carrying out paragraph (3);

8           “(B) expenses associated with scientific  
9           and engineering staff at the National Labora-  
10          tories assisting in providing training to teachers  
11          at summer institutes;

12          “(C) instruction in the use and integration  
13          of data and assessments to inform and instruct  
14          classroom practice; and

15          “(D) stipends and travel expenses for  
16          teachers participating in the program.

17          “(c) PRIORITY.—To the maximum extent practicable,  
18          the Director shall ensure that each summer institute pro-  
19          gram authorized under subsection (b) provides training  
20          to—

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

3           “(2) teachers from high-need school districts;  
4       and

5           “(3) teachers from groups underrepresented in  
6       the fields of science, technology, engineering, and  
7       mathematics teaching, including women and mem-  
8       bers of minority groups.

9       “(d) COORDINATION AND CONSULTATION.—The Di-  
10     rector shall consult and coordinate with the Secretary of  
11     Education and the Director of the National Science Foun-  
12     dation regarding the implementation of the programs au-  
13     thorized under subsection (b).

14       “(e) EVALUATION AND ACCOUNTABILITY PLAN.—

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

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



1           “(A) measurable objectives to increase the  
2           number of science, technology, and mathematics  
3           teachers who participate in the summer insti-  
4           tutes involved; and

5           “(B) measurable objectives for improved  
6           student academic achievement on State science,  
7           mathematics, and to the maximum extent appli-  
8           cable, technology and engineering assessments.

9           “(3) REPORT TO CONGRESS.—The Secretary  
10          shall submit to Congress with the annual budget  
11          submission of the Secretary a report on how the ac-  
12          tivities assisted under this section improve the  
13          science, technology, engineering, and mathematics  
14          teaching skills of participating teachers.

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

18                 “(1) \$15,000,000 for fiscal year 2008;

19                 “(2) \$20,000,000 for fiscal year 2009; and

20                 “(3) \$25,000,000 for fiscal year 2010.

1           **“CHAPTER 5—NATIONAL ENERGY**  
2                   **EDUCATION DEVELOPMENT**  
3   **“SEC. 3191. NATIONAL ENERGY EDUCATION DEVELOP-**  
4                   **MENT.**

5           “(a) IN GENERAL.—The Secretary, acting through  
6 the Director and in consultation with the Director of the  
7 National Science Foundation, shall establish a program to  
8 coordinate and make available to teachers and students  
9 web-based kindergarten through high school science, tech-  
10 nology, engineering, and mathematics education resources  
11 relating to the science and energy mission of the Depart-  
12 ment, including existing instruction materials and proto-  
13 cols for classroom laboratory experiments.

14           “(b) ENERGY EDUCATION.—The materials and other  
15 resources required under subsection (a) shall include in-  
16 struction relating to—

17                   “(1) the science of energy;

18                   “(2) the sources of energy;

19                   “(3) the uses of energy in society; and

20                   “(4) the environmental consequences and bene-  
21 fits of all energy sources and uses.

1       “(c) DISSEMINATION.—The Secretary, acting  
2 through the Director, shall take all steps necessary (such  
3 as through participation in education association con-  
4 ferences) to advertise the program authorized under this  
5 section to K-12 teachers and science education coordina-  
6 tors across the United States.

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

10               “(1) \$500,000 for fiscal year 2008; and

11               “(2) such sums as necessary for each fiscal year  
12 thereafter.

## 13               **“CHAPTER 6—ADMINISTRATION**

### 14       **“SEC. 3195. MENTORING PROGRAM.**

15       “(a) IN GENERAL.—As part of the programs estab-  
16 lished under chapters 1, 3, and 4, the Director shall estab-  
17 lish a program to recruit and provide mentors for women  
18 and underrepresented minorities who are interested in ca-  
19 reers in science, engineering, and mathematics.

20       “(b) PAIRING.—The program shall pair mentors with  
21 women and minorities who are in programs of study at

1 specialty schools for science and mathematics, Centers of  
2 Excellence, and summer institutes established under chap-  
3 ters 1, 3, and 4, respectively.

4 “(c) PROGRAM EVALUATION.—The Secretary shall  
5 annually—

6 “(1) use metrics to evaluate the success of the  
7 programs established under subsection (a); and

8 “(2) submit to Congress a report that describes  
9 the results of each evaluation.”.

10 **SEC. 5004. NUCLEAR SCIENCE TALENT EXPANSION PRO-**  
11 **GRAM FOR INSTITUTIONS OF HIGHER EDU-**  
12 **CATION.**

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

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

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

1 (b) DEFINITION OF NUCLEAR SCIENCE.—In this sec-  
2 tion, the term “nuclear science” includes—

- 3 (1) nuclear science;
- 4 (2) nuclear engineering;
- 5 (3) nuclear chemistry;
- 6 (4) radio chemistry; and
- 7 (5) health physics.

8 (c) ESTABLISHMENT.—The Secretary shall establish,  
9 in accordance with this section, a program to expand and  
10 enhance institution of higher education nuclear science  
11 educational capabilities.

12 (d) NUCLEAR SCIENCE PROGRAM EXPANSION  
13 GRANTS FOR INSTITUTIONS OF HIGHER EDUCATION.—

14 (1) IN GENERAL.—The Secretary shall award  
15 up to 3 competitive grants for each fiscal year to in-  
16 stitutions of higher education that establish new aca-  
17 demic degree programs in nuclear science.

18 (2) PRIORITY.—In evaluating grants under this  
19 subsection, the Secretary shall give priority to pro-  
20 posals that involve partnerships with a National

1 Laboratory or other eligible nuclear-related entity,  
2 as determined by the Secretary.

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

5 (A) the potential to attract new students to  
6 the program;

7 (B) academic rigor; and

8 (C) the ability to offer hands-on learning  
9 opportunities.

10 (4) DURATION AND AMOUNT.—

11 (A) DURATION.—A grant under this sub-  
12 section may be up to 5 years in duration.

13 (B) AMOUNT.—An institution of higher  
14 education that receives a grant under this sub-  
15 section shall be eligible for up to \$1,000,000 for  
16 each year of the grant period.

17 (5) USE OF FUNDS.—An institution of higher  
18 education that receives a grant under this subsection  
19 may use the grant to—

20 (A) recruit and retain new faculty;

1                   (B) develop core and specialized course  
2                   content;

3                   (C) encourage collaboration between fac-  
4                   ulty and researchers in the nuclear science field;  
5                   and

6                   (D) support outreach efforts to recruit stu-  
7                   dents.

8           (e) NUCLEAR SCIENCE COMPETITIVENESS GRANTS  
9           FOR INSTITUTIONS OF HIGHER EDUCATION.—

10           (1) IN GENERAL.—The Secretary shall award  
11           up to 5 competitive grants for each fiscal year to in-  
12           stitutions of higher education with existing academic  
13           degree programs that produce graduates in nuclear  
14           science.

15           (2) CRITERIA.—Criteria for a grant awarded  
16           under this subsection shall be based on the potential  
17           for increasing the number and academic quality of  
18           graduates in the nuclear sciences who enter into ca-  
19           reers in nuclear-related fields.

20           (3) DURATION AND AMOUNT.—

1           (A) DURATION.—A grant under this sub-  
2           section may be up to 5 years in duration.

3           (B) AMOUNT.—An institution of higher  
4           education that receives a grant under this sub-  
5           section shall be eligible for up to \$500,000 for  
6           each year of the grant period.

7           (4) USE OF FUNDS.—An institution of higher  
8           education that receives a grant under this subsection  
9           may use the grant to—

10           (A) increase the number of graduates in  
11           nuclear science that enter into careers in the  
12           nuclear science field;

13           (B) enhance the teaching of advanced nu-  
14           clear technologies;

15           (C) aggressively pursue collaboration op-  
16           portunities with industry and National Labora-  
17           tories;

18           (D) bolster or sustain nuclear infrastruc-  
19           ture and research facilities of the institution of  
20           higher education, such as research and training  
21           reactors or laboratories; and



1 (E) provide tuition assistance and stipends  
2 to undergraduate and graduate students.

3 (f) AUTHORIZATION OF APPROPRIATIONS.—

4 (1) NUCLEAR SCIENCE PROGRAM EXPANSION  
5 GRANTS FOR INSTITUTIONS OF HIGHER EDU-  
6 CATION.—There are authorized to be appropriated  
7 to carry out subsection (d)—

8 (A) \$3,500,000 for fiscal year 2008;

9 (B) \$6,500,000 for fiscal year 2009; and

10 (C) \$9,500,000 for fiscal year 2010.

11 (2) NUCLEAR SCIENCE COMPETITIVENESS  
12 GRANTS FOR INSTITUTIONS OF HIGHER EDU-  
13 CATION.—There are authorized to be appropriated  
14 to carry out subsection (e)—

15 (A) \$3,000,000 for fiscal year 2008;

16 (B) \$5,500,000 for fiscal year 2009; and

17 (C) \$8,000,000 for fiscal year 2010.

18 **SEC. 5005. HYDROCARBON SYSTEMS SCIENCE TALENT EX-**  
19 **PANSION PROGRAM FOR INSTITUTIONS OF**  
20 **HIGHER EDUCATION.**

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

1           (1) to address the decline in the number of and  
2 resources available to hydrocarbon systems science  
3 programs at institutions of higher education; and

4           (2) to increase the number of graduates with  
5 degrees in hydrocarbon systems science, an area of  
6 strategic importance to the economic competitiveness  
7 and energy security of the United States.

8           (b) DEFINITION OF HYDROCARBON SYSTEMS  
9 SCIENCE.—In this section:

10           (1) IN GENERAL.—The term “hydrocarbon sys-  
11 tems science” means a science involving natural gas  
12 or other petroleum exploration, development, or pro-  
13 duction.

14           (2) INCLUSIONS.—The term “hydrocarbon sys-  
15 tems science” includes—

16                   (A) petroleum or reservoir engineering;

17                   (B) environmental geoscience;

18                   (C) petrophysics;

19                   (D) geophysics;

20                   (E) geochemistry;

21                   (F) petroleum geology;

- 1 (G) ocean engineering;
- 2 (H) environmental engineering; and
- 3 (I) computer science, as computer science
- 4 relates to a science described in this subsection.

5 (c) ESTABLISHMENT.—The Secretary shall establish,

6 in accordance with this section, a program to expand and

7 enhance institution of higher education hydrocarbon sys-

8 tems science educational capabilities.

9 (d) HYDROCARBON SYSTEMS SCIENCE PROGRAM EX-

10 PANSION GRANTS FOR INSTITUTIONS OF HIGHER EDU-

11 CATION.—

12 (1) IN GENERAL.—The Secretary shall award

13 up to 3 competitive grants for each fiscal year to in-

14 stitutions of higher education that establish new aca-

15 demic degree programs in hydrocarbon systems

16 science.

17 (2) ELIGIBILITY.—In evaluating grants under

18 this subsection, the Secretary shall give priority to

19 proposals that involve partnerships with the Na-

20 tional Laboratories, including the National Energy

21 Technology Laboratory, or other hydrocarbon sys-

1       tems scientific entities, as determined by the Sec-  
2       retary.

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

5           (A) the potential to attract new students to  
6       the program;

7           (B) academic rigor; and

8           (C) the ability to offer hands-on learning  
9       opportunities.

10       (4) DURATION AND AMOUNT.—

11           (A) DURATION.—A grant under this sub-  
12       section may be up to 5 years in duration.

13           (B) AMOUNT.—An institution of higher  
14       education that receives a grant under this sub-  
15       section shall be eligible for up to \$1,000,000 for  
16       each year of the grant period.

17       (5) USE OF FUNDS.—An institution of higher  
18       education that receives a grant under this subsection  
19       may use the grant to—

20           (A) recruit and retain new faculty;

1 (B) develop core and specialized course  
2 content;

3 (C) encourage collaboration between fac-  
4 ulty and researchers in the hydrocarbon sys-  
5 tems science field; and

6 (D) support outreach efforts to recruit stu-  
7 dents.

8 (e) HYDROCARBON SYSTEMS SCIENCE COMPETITIVE-  
9 NESS GRANTS FOR INSTITUTIONS OF HIGHER EDU-  
10 CATION.—

11 (1) IN GENERAL.—The Secretary shall award  
12 up to 5 competitive grants for each fiscal year to in-  
13 stitutions of higher education with existing academic  
14 degree programs that produce graduates in hydro-  
15 carbon systems science.

16 (2) CRITERIA.—Criteria for a grant awarded  
17 under this subsection shall be based on the potential  
18 for increasing the number and academic quality of  
19 graduates in hydrocarbon systems sciences who  
20 enter into careers in natural gas and other petro-



1           (C) aggressively pursue collaboration op-  
2           portunities with industry and the National Lab-  
3           oratories, including the National Energy Tech-  
4           nology Laboratory;

5           (D) bolster or sustain natural gas and  
6           other petroleum exploration, development, and  
7           production infrastructure and research facilities  
8           of the institution of higher education, such as  
9           research and training or laboratories; and

10           (E) provide tuition assistance and stipends  
11           to undergraduate and graduate students.

12       (f) AUTHORIZATION OF APPROPRIATIONS.—

13           (1) HYDROCARBON SYSTEMS SCIENCE PROGRAM  
14           EXPANSION GRANTS FOR INSTITUTIONS OF HIGHER  
15           EDUCATION.—There are authorized to be appro-  
16           priated to carry out subsection (d)—

17                   (A) \$3,500,000 for fiscal year 2008;

18                   (B) \$6,500,000 for fiscal year 2009; and

19                   (C) \$9,500,000 for fiscal year 2010.

20           (2) HYDROCARBON SYSTEMS SCIENCE COM-  
21           PETITIVENESS GRANTS FOR INSTITUTIONS OF HIGH-

1 ER EDUCATION.—There are authorized to be appro-  
2 priated to carry out subsection (e)—

3 (A) \$3,000,000 for fiscal year 2008;

4 (B) \$5,500,000 for fiscal year 2009; and

5 (C) \$8,000,000 for fiscal year 2010.

6 **SEC. 5006. DEPARTMENT OF ENERGY EARLY CAREER**  
7 **AWARDS FOR SCIENCE, ENGINEERING, AND**  
8 **MATHEMATICS RESEARCHERS.**

9 (a) GRANT AWARDS.—The Director of the Office of  
10 Science of the Department (referred to in this section as  
11 the “Director”) shall carry out a program to award grants  
12 to scientists and engineers at an early career stage at in-  
13 stitutions of higher education and organizations described  
14 in subsection (c) to conduct research in fields relevant to  
15 the mission of the Department.

16 (b) AMOUNT AND DURATION.—

17 (1) AMOUNT.—The amount of a grant awarded  
18 under this section shall be—

19 (A) not less than \$80,000; and

20 (B) not more than \$125,000.



1           (2) DURATION.—The term of a grant awarded  
2           under this section shall be not more than 5 years.

3           (c) ELIGIBILITY.—

4           (1) IN GENERAL.—To be eligible to receive a  
5           grant under this section, an individual shall, as de-  
6           termined by the Director—

7                   (A) subject to paragraph (2), have com-  
8                   pleted a doctorate or other terminal degree not  
9                   more than 10 years before the date on which  
10                  the proposal for a grant is submitted under  
11                  subsection (e)(1);

12                  (B) have demonstrated promise in a  
13                  science, engineering, or mathematics field rel-  
14                  evant to the missions of the Department; and

15                  (C) be employed—

16                   (i) in a tenure track-position as an as-  
17                   sistant professor or equivalent title at an  
18                   institution of higher education in the  
19                   United States;

20                   (ii) at an organization in the United  
21                   States that is a nonprofit, nondegree-

1                   granting research organization such as a  
2                   museum, observatory, or research labora-  
3                   tory; or

4                   (iii) as a scientist at a National Lab-  
5                   oratory.

6           (2)    WAIVER.—Notwithstanding paragraph  
7           (1)(A), the Director may determine that an indi-  
8           vidual who has completed a doctorate more than 10  
9           years before the date of submission of a proposal  
10          under subsection (e)(1) is eligible to receive a grant  
11          under this section if the individual was unable to  
12          conduct research for a period of time because of ex-  
13          tenuating circumstances, including military service  
14          or family responsibilities, as determined by the Di-  
15          rector.

16          (d)   SELECTION.—Grant recipients shall be selected  
17          on a competitive, merit-reviewed basis.

18          (e)   SELECTION PROCESS AND CRITERIA.—

19               (1)   PROPOSAL.—To be eligible to receive a  
20               grant under this section, an individual shall submit  
21               to the Director a proposal at such time, in such

1 manner, and containing such information as the Di-  
2 rector may require.

3 (2) EVALUATION.—In evaluating the proposals  
4 submitted under paragraph (1), the Director shall  
5 take into consideration, at a minimum—

6 (A) the intellectual merit of the proposed  
7 project;

8 (B) the innovative or transformative na-  
9 ture of the proposed research;

10 (C) the extent to which the proposal inte-  
11 grates research and education, including under-  
12 graduate education in science and engineering  
13 disciplines; and

14 (D) the potential of the applicant for lead-  
15 ership at the frontiers of knowledge.

16 (f) DIVERSITY REQUIREMENT.—

17 (1) IN GENERAL.—In awarding grants under  
18 this section, the Director shall endeavor to ensure  
19 that the grant recipients represent a variety of types  
20 of institutions of higher education and nonprofit,  
21 nondegree-granting research organizations.

1           (2) REQUIREMENT.—In support of the goal de-  
2           scribed in paragraph (1), the Director shall broadly  
3           disseminate information regarding the deadlines ap-  
4           plicable to, and manner in which to submit, pro-  
5           posals for grants under this section, including by  
6           conducting outreach activities for—

7                   (A) part B institutions (as defined in sec-  
8                   tion 322 of the Higher Education Act of 1965  
9                   (20 U.S.C. 1061)); and

10                   (B) minority institutions (as defined in  
11                   section 365 of that Act (20 U.S.C. 1067k)).

12           (g) REPORT ON RECRUITING AND RETAINING EARLY  
13 CAREER SCIENCE AND ENGINEERING RESEARCHERS AT  
14 NATIONAL LABORATORIES.—

15           (1) IN GENERAL.—Not later than 90 days after  
16           the date of enactment of this Act, the Director shall  
17           submit to the Committee on Science and Technology  
18           of the House of Representatives and the Committee  
19           on Energy and Natural Resources of the Senate a  
20           report describing efforts of the Director to recruit

1           and retain young scientists and engineers at early  
2           career stages at the National Laboratories.

3           (2) INCLUSIONS.—The report under paragraph  
4           (1) shall include—

5                   (A) a description of applicable Department  
6                   and National Laboratory policies and proce-  
7                   dures, including policies and procedures relating  
8                   to financial incentives, awards, promotions,  
9                   time reserved for independent research, access  
10                  to equipment or facilities, and other forms of  
11                  recognition, designed to attract and retain  
12                  young scientists and engineers;

13                  (B) an evaluation of the impact of the in-  
14                  centives described in subparagraph (A) on—

15                          (i) the careers of young scientists and  
16                          engineers at the National Laboratories;  
17                          and

18                          (ii) the quality of the research at the  
19                          National Laboratories and in Department  
20                          programs;

1           (C) a description of barriers, if any, that  
2           exist with respect to efforts to recruit and re-  
3           tain young scientists and engineers, including  
4           the limited availability of full-time equivalent  
5           positions, legal and procedural requirements,  
6           and pay grading systems; and

7           (D) the amount of funding devoted to ef-  
8           forts to recruit and retain young researchers,  
9           and the source of the funds.

10       (h) AUTHORIZATION OF APPROPRIATIONS.—There is  
11 authorized to be appropriated to the Secretary, acting  
12 through the Director, to carry out this section  
13 \$25,000,000 for each of fiscal years 2008 through 2010.

14 **SEC. 5007. AUTHORIZATION OF APPROPRIATIONS FOR DE-**  
15 **PARTMENT OF ENERGY FOR BASIC RE-**  
16 **SEARCH.**

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

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

1           (2) in paragraph (3), by striking the period at  
2           the end and inserting “; and”; and

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

4           “(4) \$5,814,000,000 for fiscal year 2010.”.

5 **SEC. 5008. DISCOVERY SCIENCE AND ENGINEERING INNO-**  
6 **VATION INSTITUTES.**

7           (a) **IN GENERAL.**—The Secretary shall establish dis-  
8 tributed, multidisciplinary institutes (referred to in this  
9 section as “Institutes”) centered at National Laboratories  
10 to apply fundamental science and engineering discoveries  
11 to technological innovations relating to—

12           (1) the missions of the Department; and

13           (2) the global competitiveness of the United  
14 States.

15           (b) **TOPICAL AREAS.**—The Institutes shall support  
16 scientific and engineering research and education activities  
17 on critical emerging technologies determined by the Sec-  
18 retary to be essential to global competitiveness, including  
19 activities relating to—

20           (1) sustainable energy technologies;

21           (2) multiscale materials and processes;

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

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

- 8 (1) institutions of higher education—
  - 9 (A) to train undergraduate and graduate
  - 10 science and engineering students;
  - 11 (B) to develop innovative undergraduate
  - 12 and graduate educational curricula; and
  - 13 (C) to conduct research within the topical
  - 14 areas described in subsection (b); and

15 (2) private industry to develop innovative tech-  
16 nologies within the topical areas described in sub-  
17 section (b).

18 (d) GRANTS.—

19 (1) IN GENERAL.—For each fiscal year, the  
20 Secretary may select not more than 3 Institutes to  
21 receive a grant under this section.



1           (2) MERIT-BASED SELECTION.—The selection  
2 of Institutes under paragraph (1) shall be—

3           (A) merit-based; and

4           (B) made through an open, competitive se-  
5 lection process.

6           (3) TERM.—An Institute shall receive a grant  
7 under this section for not more than 3 fiscal years.

8           (e) REVIEW.—The Secretary shall offer to enter into  
9 an agreement with the National Academy of Sciences  
10 under which the Academy shall, by not later than 3 years  
11 after the date of enactment of this Act—

12           (1) review the performance of the Institutes  
13 under this section; and

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

16           (f) AUTHORIZATION OF APPROPRIATIONS.—There is  
17 authorized to be appropriated to provide grants to each  
18 Institute selected under this section \$10,000,000 for each  
19 of fiscal years 2008 through 2010.

1 **SEC. 5009. PROTECTING AMERICA'S COMPETITIVE EDGE**  
2 **(PACE) GRADUATE FELLOWSHIP PROGRAM.**

3 (a) DEFINITION OF ELIGIBLE STUDENT.—In this  
4 section, the term “eligible student” means a student who  
5 attends an institution of higher education that offers a  
6 doctoral degree in a field relevant to a mission area of  
7 the Department.

8 (b) ESTABLISHMENT.—The Secretary shall establish  
9 a graduate fellowship program for eligible students pur-  
10 suing a doctoral degree in a mission area of the Depart-  
11 ment.

12 (c) SELECTION.—

13 (1) IN GENERAL.—The Secretary shall award  
14 fellowships to eligible students under this section  
15 through a competitive merit review process (involv-  
16 ing written and oral interviews) that will result in a  
17 wide distribution of awards throughout the United  
18 States, as determined by the Secretary.

19 (2) CRITERIA.—The Secretary shall establish  
20 selection criteria for awarding fellowships under this  
21 section that require an eligible student—

1 (A) to pursue a field of science or engi-  
2 neering of importance to a mission area of the  
3 Department;

4 (B) to demonstrate to the Secretary—

5 (i) the capacity of the eligible student  
6 to understand technical topics relating to  
7 the fellowship that can be derived from the  
8 first principles of the technical topics;

9 (ii) imagination and creativity;

10 (iii) leadership skills in organizations  
11 or intellectual endeavors, demonstrated  
12 through awards and past experience; and

13 (iv) excellent verbal and communica-  
14 tion skills to explain, defend, and dem-  
15 onstrate an understanding of technical  
16 subjects relating to the fellowship; and

17 (C) to be a citizen or legal permanent resi-  
18 dent of the United States.

19 (d) AWARDS.—

20 (1) AMOUNT.—A fellowship awarded under this  
21 section shall—

1 (A) provide an annual living stipend; and

2 (B) cover—

3 (i) graduate tuition at an institution  
4 of higher education described in subsection  
5 (a); and

6 (ii) incidental expenses associated  
7 with curricula and research at the institu-  
8 tion of higher education (including books,  
9 computers, and software).

10 (2) DURATION.—A fellowship awarded under  
11 this section shall be up to 3 years duration within  
12 a 5-year period.

13 (3) PORTABILITY.—A fellowship awarded under  
14 this section shall be portable with the eligible stu-  
15 dent.

16 (e) ADMINISTRATION.—The Secretary (acting  
17 through the Director of Science, Engineering, and Mathe-  
18 matics Education)—

19 (1) shall administer the program established  
20 under this section; and

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

4           (f) AUTHORIZATION OF APPROPRIATIONS.—There  
5           are authorized to be appropriated to carry out this sec-  
6           tion—

7           (1) \$7,500,000 for fiscal year 2008;

8           (2) \$12,000,000 for fiscal year 2009 (including  
9           nonexpiring fellowships for the preceding fiscal  
10          year); and

11          (3) \$20,000,000 for fiscal year 2010 (including  
12          nonexpiring fellowships for preceding fiscal years).

13 **SEC. 5010. SENSE OF CONGRESS REGARDING CERTAIN REC-**  
14 **COMMENDATIONS AND REVIEWS.**

15          It is the sense of Congress that—

16          (1) the Department of Energy should imple-  
17          ment the recommendations contained in the report  
18          of the Government Accountability Office numbered  
19          04–639; and

20          (2) the Secretary of Energy should annually  
21          conduct reviews in accordance with title IX of the

1 Education Amendments of 1972 (20 U.S.C. 1681 et  
2 seq.) of at least 2 recipients of grants provided by  
3 the Department of Energy.

4 **SEC. 5011. DISTINGUISHED SCIENTIST PROGRAM.**

5 (a) PURPOSE.—The purpose of this section is to pro-  
6 mote scientific and academic excellence through collabora-  
7 tions between institutions of higher education and Na-  
8 tional Laboratories.

9 (b) ESTABLISHMENT.—The Secretary shall establish  
10 a program to support the joint appointment of distin-  
11 guished scientists by institutions of higher education and  
12 National Laboratories.

13 (c) QUALIFICATIONS.—To be eligible for appointment  
14 as a distinguished scientist under this section, an indi-  
15 vidual, by reason of professional background and experi-  
16 ence, shall be able to bring international recognition to the  
17 appointing institution of higher education or National  
18 Laboratory in the field of scientific endeavor of the indi-  
19 vidual.

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

4 (e) APPOINTMENT.—

5 (1) INSTITUTION OF HIGHER EDUCATION.—An  
6 appointment by an institution of higher education  
7 under this section shall be filled within the tenure al-  
8 lotment of the institution of higher education, at a  
9 minimum rank of professor.

10 (2) NATIONAL LABORATORY.—An appointment  
11 by a National Laboratory under this section shall be  
12 at the rank of the highest grade of distinguished sci-  
13 entist or technical staff of the National Laboratory.

14 (f) DURATION.—An appointment under this section  
15 shall—

16 (1) be for a term of 6 years; and

17 (2) consist of 2 3-year funding allotments.

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

20 (1) the salary of the distinguished scientist and  
21 support staff;

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

3           (3) research-related equipment;

4           (4) professional travel; and

5           (5) such other requirements as the Secretary  
6           determines to be necessary to carry out the purpose  
7           of the program.

8           (h) REVIEW.—

9           (1) IN GENERAL.—The appointment of a distin-  
10           guished scientist under this section shall be reviewed  
11           at the end of the first 3-year allotment for the dis-  
12           tinguished scientist through an open peer-review  
13           process to determine whether the appointment is  
14           meeting the purpose of this section under subsection  
15           (a).

16           (2) FUNDING.—Funding of the appointment of  
17           the distinguished scientist for the second 3-year al-  
18           lotment shall be determined based on the review con-  
19           ducted under paragraph (1).

20           (i) COST SHARING.—To be eligible for assistance  
21           under this section, an appointing institution of higher edu-



1 cation shall pay at least 50 percent of the total costs of  
2 the appointment.

3 (j) AUTHORIZATION OF APPROPRIATIONS.—There  
4 are authorized to be appropriated to carry out this sec-  
5 tion—

6 (1) \$15,000,000 for fiscal year 2008;

7 (2) \$20,000,000 for fiscal year 2009; and

8 (3) \$30,000,000 for fiscal year 2010.

9 **SEC. 5012. ADVANCED RESEARCH PROJECTS AGENCY—EN-**  
10 **ERGY.**

11 (a) DEFINITIONS.—In this section:

12 (1) ARPA-E.—The term “ARPA-E” means  
13 the Advanced Research Projects Agency—Energy  
14 established by subsection (b).

15 (2) DIRECTOR.—The term “Director” means  
16 the Director of ARPA-E appointed under subsection  
17 (d).

18 (3) FUND.—The term “Fund” means the En-  
19 ergy Transformation Acceleration Fund established  
20 under subsection (l)(1).

1           (b) ESTABLISHMENT.—There is established the Ad-  
2 vanced Research Projects Agency—Energy within the De-  
3 partment to overcome the long-term and high-risk techno-  
4 logical barriers in the development of energy technologies.

5           (c) GOALS.—

6           (1) IN GENERAL.—The goals of ARPA-E shall  
7 be—

8                   (A) to enhance the economic and energy  
9 security of the United States through the devel-  
10 opment of energy technologies that result in—

11                           (i) reductions of imports of energy  
12 from foreign sources;

13                           (ii) reductions of energy-related emis-  
14 sions, including greenhouse gases; and

15                           (iii) improvement in the energy effi-  
16 ciency of all economic sectors; and

17                   (B) to ensure that the United States main-  
18 tains a technological lead in developing and de-  
19 ploying advanced energy technologies.

1           (2) MEANS.—ARPA-E shall achieve the goals  
2 established under paragraph (1) through energy  
3 technology projects by—

4           (A) identifying and promoting revolu-  
5 tionary advances in fundamental sciences;

6           (B) translating scientific discoveries and  
7 cutting-edge inventions into technological inno-  
8 vations; and

9           (C) accelerating transformational techno-  
10 logical advances in areas that industry by itself  
11 is not likely to undertake because of technical  
12 and financial uncertainty.

13 (d) DIRECTOR.—

14           (1) APPOINTMENT.—The Secretary shall ap-  
15 point a Director of ARPA-E.

16           (2) QUALIFICATIONS.—The Director shall be an  
17 individual who, by reason of professional background  
18 and experience, is especially qualified to advise the  
19 Secretary on, and manage research programs ad-  
20 dressing, matters pertaining to long-term and high-

1 risk technological barriers to the development of en-  
2 ergy technologies.

3 (3) RELATIONSHIP TO SECRETARY.—The Di-  
4 rector shall report to the Secretary.

5 (4) RELATIONSHIP TO OTHER PROGRAMS.—No  
6 other programs within the Department shall report  
7 to the Director.

8 (e) RESPONSIBILITIES.—The responsibilities of the  
9 Director shall include—

10 (1) approving all new programs within ARPA-  
11 E;

12 (2) developing funding criteria and assessing  
13 the success of programs through the establishment  
14 of technical milestones;

15 (3) administering the Fund through awards to  
16 institutions of higher education, companies, research  
17 foundations, trade and industry research collabora-  
18 tions, or consortia of such entities, which may in-  
19 clude federally-funded research and development  
20 centers, to achieve the goals described in subsection  
21 (c) through targeted acceleration of—

1 (A) novel early-stage energy research with  
2 possible technology applications;

3 (B) development of techniques, processes,  
4 and technologies, and related testing and eval-  
5 uation;

6 (C) research and development of manufac-  
7 turing processes for novel energy technologies;  
8 and

9 (D) coordination with nongovernmental en-  
10 tities for demonstration of technologies and re-  
11 search applications to facilitate technology  
12 transfer; and

13 (4) terminating programs carried out under this  
14 section that are not achieving the goals of the pro-  
15 grams.

16 (f) PERSONNEL.—

17 (1) PROGRAM MANAGERS.—

18 (A) IN GENERAL.—The Director shall des-  
19 ignate employees to serve as program managers  
20 for each of the programs established pursuant

1 to the responsibilities established for ARPA-E  
2 under subsection (e).

3 (B) RESPONSIBILITIES.—A program man-  
4 ager of a program shall be responsible for—

5 (i) establishing research and develop-  
6 ment goals for the program, including  
7 through the convening of workshops and  
8 conferring with outside experts, and publi-  
9 cizing the goals of the program to the pub-  
10 lic and private sectors;

11 (ii) soliciting applications for specific  
12 areas of particular promise, especially  
13 areas that the private sector or the Federal  
14 Government are not likely to undertake  
15 alone;

16 (iii) building research collaborations  
17 for carrying out the program;

18 (iv) selecting on the basis of merit,  
19 with advice under subsection (i) as appro-  
20 priate, each of the projects to be supported  
21 under the program after considering—

1 (I) the novelty and scientific and  
2 technical merit of the proposed  
3 projects;

4 (II) the demonstrated capabilities  
5 of the applicants to successfully carry  
6 out the proposed project;

7 (III) the consideration by the ap-  
8 plicant of future commercial applica-  
9 tions of the project, including the fea-  
10 sibility of partnering with 1 or more  
11 commercial entities; and

12 (IV) such other criteria as are es-  
13 tablished by the Director;

14 (v) monitoring the progress of  
15 projects supported under the program; and

16 (vi) recommending program restruc-  
17 ture or termination of research partner-  
18 ships or whole projects.

19 (C) TERM.—The term of a program man-  
20 ager shall be 3 years and may be renewed.

21 (2) HIRING AND MANAGEMENT.—

1           (A) IN GENERAL.—The Director shall have  
2           the authority to—

3                   (i) make appointments of scientific,  
4                   engineering, and professional personnel  
5                   without regard to the civil service laws;  
6                   and

7                   (ii) fix the compensation of such per-  
8                   sonnel at a rate to be determined by the  
9                   Director.

10           (B) NUMBER.—The Director shall appoint  
11           not less than 70, and not more than 120, per-  
12           sonnel under this section.

13           (C) PRIVATE RECRUITING FIRMS.—The  
14           Secretary, or the Director serving as an agent  
15           of the Secretary, may contract with private re-  
16           cruiting firms for the hiring of qualified tech-  
17           nical staff to carry out this section.

18           (D) ADDITIONAL STAFF.—The Director  
19           may use all authorities in existence on the date  
20           of enactment of this Act that are provided to  
21           the Secretary to hire administrative, financial,



1           and clerical staff as necessary to carry out this  
2           section.

3           (g) COORDINATION AND NONDUPLICATION.—

4           (1) IN GENERAL.—To the maximum extent  
5           practicable, the Director shall ensure that the activi-  
6           ties of ARPA-E are coordinated with, and do not  
7           duplicate the efforts of, existing programs and lab-  
8           oratories within the Department and other relevant  
9           research agencies.

10          (2) TECHNOLOGY TRANSFER COORDINATOR.—

11          To the extent appropriate, the Director may coordi-  
12          nate technology transfer efforts with the Technology  
13          Transfer Coordinator appointed under section 1001  
14          of the Energy Policy Act of 2005 (42 U.S.C.  
15          16391).

16          (h) FEDERAL DEMONSTRATION OF TECH-  
17          NOLOGIES.—The Secretary shall make information avail-  
18          able to purchasing and procurement programs of Federal  
19          agencies regarding the potential to demonstrate tech-  
20          nologies resulting from activities funded through ARPA-  
21          E.

1 (i) ADVICE.—

2 (1) ADVISORY COMMITTEES.—The Director  
3 may seek advice on any aspect of ARPA-E from—

4 (A) an existing Department of Energy ad-  
5 visory committee; and

6 (B) a new advisory committee organized to  
7 support the programs of ARPA-E and to pro-  
8 vide advice and assistance on—

9 (i) specific program tasks; or

10 (ii) overall direction of ARPA-E.

11 (2) ADDITIONAL SOURCES OF ADVICE.—In car-  
12 rying out this section, the Director may seek advice  
13 and review from—

14 (A) the National Academy of Sciences;

15 (B) the National Academy for Engineer-  
16 ing; and

17 (C) any other professional or scientific or-  
18 ganization with expertise in specific processes  
19 or technologies under development by ARPA-E.

20 (j) ARPA-E EVALUATION.—

1           (1) IN GENERAL.—After ARPA-E has been in  
2           operation for 4 years, the President’s Committee of  
3           Advisors on Science and Technology shall initiate an  
4           evaluation of how well ARPA-E is achieving the  
5           goals and mission of ARPA-E.

6           (2) INCLUSIONS.—The evaluation shall in-  
7           clude—

8                   (A) the recommendation of the Committee  
9                   on whether ARPA-E should be continued or  
10                  terminated; and

11                   (B) a description of lessons learned from  
12                  operation of ARPA-E.

13           (3) AVAILABILITY.—On completion of the eval-  
14           uation, the evaluation shall be made available to  
15           Congress and the public.

16           (k) EXISTING AUTHORITIES.—The authorities grant-  
17           ed by this section are—

18                   (1) in addition to existing authorities granted to  
19                  the Secretary; and

20                   (2) are not intended to supersede or modify any  
21                  existing authorities.

1 (1) FUNDING.—

2 (1) FUND.—There is established in the Treas-  
3 ury of the United States a fund, to be known as the  
4 “Energy Transformation Acceleration Fund”, which  
5 shall be administered by the Director for the pur-  
6 poses of carrying out this section.

7 (2) AUTHORIZATION OF APPROPRIATIONS.—  
8 Subject to paragraphs (4) and (5), there are author-  
9 ized to be appropriated to the Director for deposit  
10 in the Fund, without fiscal year limitation—

11 (A) \$300,000,000 for fiscal year 2008; and

12 (B) such sums as are necessary for each of  
13 fiscal years 2009 and 2010.

14 (3) SEPARATE BUDGET AND APPROPRIATION.—

15 (A) BUDGET REQUEST.—The budget re-  
16 quest for ARPA-E shall be separate from the  
17 rest of the budget of the Department.

18 (B) APPROPRIATIONS.—Appropriations to  
19 the Fund shall be separate and distinct from  
20 the rest of the budget for the Department.

1           (4) LIMITATION.—No amounts may be appro-  
2           priated for ARPA-E for fiscal year 2008 unless the  
3           amount appropriated for the activities of the Office  
4           of Science of the Department for fiscal year 2008  
5           exceeds the amount appropriated for the Office for  
6           fiscal year 2007, as adjusted for inflation in accord-  
7           ance with the Consumer Price Index published by  
8           the Bureau of Labor Statistics of the Department of  
9           Labor.

10          (5) ALLOCATION.—Of the amounts appro-  
11          priated for a fiscal year under paragraph (2)—

12                 (A) not more than 50 percent of the  
13                 amount shall be used to carry out subsection  
14                 (e)(3)(D);

15                 (B) at least 2.5 percent of the amount  
16                 shall be used for technology transfer and out-  
17                 reach activities; and

18                 (C) no funds may be used for construction  
19                 of new buildings or facilities during the 5-year  
20                 period beginning on the date of enactment of  
21                 this Act.

1                   **TITLE VI—EDUCATION**

2   **SEC. 6001. FINDINGS.**

3           Congress makes the following findings:

4                   (1) A well-educated population is essential to  
5           retaining America’s competitiveness in the global  
6           economy.

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

14                   (3) The next steps must be informed by inde-  
15          pendent information on the effectiveness of current  
16          programs in science, technology, engineering, mathe-  
17          matics, and critical foreign language education, and  
18          by identification of best practices that can be rep-  
19          licated.

20                   (4) Teacher preparation and elementary school  
21          and secondary school programs and activities must

1 be aligned with the requirements of the Elementary  
2 and Secondary Education Act of 1965 (20 U.S.C.  
3 6301 et seq.) and the requirements of the Higher  
4 Education Act of 1965 (20 U.S.C. 1001 et seq.).

5 (5) The ever increasing knowledge and skill de-  
6 mands of the 21st century require that secondary  
7 school preparation and requirements be better  
8 aligned with the knowledge and skills needed to suc-  
9 ceed in postsecondary education and the workforce,  
10 and States need better data systems to track edu-  
11 cational achievement from prekindergarten through  
12 baccalaureate degrees.

13 **SEC. 6002. DEFINITIONS.**

14 (a) ESEA DEFINITIONS.—Unless otherwise specified  
15 in this title, the terms used in this title have the meanings  
16 given the terms in section 9101 of the Elementary and  
17 Secondary Education Act of 1965 (20 U.S.C. 7801).

18 (b) OTHER DEFINITIONS.—In this title:

19 (1) CRITICAL FOREIGN LANGUAGE.—The term  
20 “critical foreign language” means a foreign language  
21 that the Secretary determines, in consultation with

1 the heads of such Federal departments and agencies  
2 as the Secretary determines appropriate, is critical  
3 to the national security and economic competitive-  
4 ness of the United States.

5 (2) INSTITUTION OF HIGHER EDUCATION.—The  
6 term “institution of higher education” has the  
7 meaning given the term in section 101(a) of the  
8 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

9 (3) SECRETARY.—The term “Secretary” means  
10 the Secretary of Education.

11 (4) SCIENTIFICALLY VALID RESEARCH.—The  
12 term “scientifically valid research” includes applied  
13 research, basic research, and field-initiated research  
14 in which the rationale, design, and interpretation are  
15 soundly developed in accordance with accepted prin-  
16 ciples of scientific research.

## 17 **Subtitle A—Teacher Assistance**

### 18 **PART I—TEACHERS FOR A COMPETITIVE**

#### 19 **TOMORROW**

#### 20 **SEC. 6111. PURPOSE.**

21 The purpose of this part is—



1           (1) to develop and implement programs to pro-  
2           vide integrated courses of study in science, tech-  
3           nology, engineering, mathematics, or critical foreign  
4           languages, and teacher education, that lead to a bac-  
5           calaureate degree in science, technology, engineering,  
6           mathematics, or a critical foreign language, with  
7           concurrent teacher certification;

8           (2) to develop and implement 2- or 3-year part-  
9           time master's degree programs in science, tech-  
10          nology, engineering, mathematics, or critical foreign  
11          language education for teachers in order to enhance  
12          the teachers' content knowledge and pedagogical  
13          skills; and

14          (3) to develop programs for professionals in  
15          science, technology, engineering, mathematics, or  
16          critical foreign language education that lead to a  
17          master's degree in teaching that results in teacher  
18          certification.

19 **SEC. 6112. DEFINITIONS.**

20          In this part:

1           (1) CHILDREN FROM LOW-INCOME FAMILIES.—  
2           The term “children from low-income families”  
3           means children described in section 1124(c)(1)(A) of  
4           the Elementary and Secondary Education Act of  
5           1965 (20 U.S.C. 6333(c)(1)(A)).

6           (2) ELIGIBLE RECIPIENT.—The term “eligible  
7           recipient” means an institution of higher education  
8           that receives grant funds under this part on behalf  
9           of a department of science, technology, engineering,  
10          mathematics, or a critical foreign language, or on  
11          behalf of a department or school with a competency-  
12          based degree program (in science, technology, engi-  
13          neering, mathematics, or a critical foreign language)  
14          that includes teacher certification, for use in car-  
15          rying out activities assisted under this part.

16          (3) HIGH-NEED LOCAL EDUCATIONAL AGEN-  
17          CY.—The term “high-need local educational agency”  
18          means a local educational agency or educational  
19          service agency—

20                       (A)(i) that serves not fewer than 10,000  
21                       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 41, 42, or 43, as determined by the Sec-  
9           retary; and

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

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

18          (4) HIGHLY QUALIFIED.—The term “highly  
19          qualified” has the meaning given such term in sec-  
20          tion 9101 of the Elementary and Secondary Edu-  
21          cation Act of 1965 (20 U.S.C. 7801) and, with re-

1       spect to special education teachers, in section 602 of  
2       the Individuals with Disabilities Education Act (20  
3       U.S.C. 1401).

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

6           (A) shall include—

7               (i) an eligible recipient;

8               (ii)(I)(aa) a department within the eli-  
9               gible recipient that provides a program of  
10              study in science, technology, engineering,  
11              mathematics, or a critical foreign lan-  
12              guage; and

13              (bb) a school, department, or program  
14              of education within the eligible recipient,  
15              or a 2-year institution of higher education  
16              that has a teacher preparation offering or  
17              a dual enrollment program with the eligible  
18              recipient; or

19              (II) a department or school within the  
20              eligible recipient with a competency-based  
21              degree program (in science, technology, en-



- 1 (i) are based on scientifically valid re-  
2 search;
- 3 (ii) are specific to academic subject  
4 matter; and
- 5 (iii) focus on the identification of stu-  
6 dents' specific learning needs, particularly  
7 students with disabilities, students who are  
8 limited English proficient, students who  
9 are gifted and talented, and students with  
10 low literacy levels, and the tailoring of aca-  
11 demic instruction to such needs;
- 12 (D) conduct ongoing assessment of student  
13 learning;
- 14 (E) effectively manage a classroom; and
- 15 (F) communicate and work with parents  
16 and guardians, and involve parents and guard-  
17 ians in their children's education.

1 **SEC. 6113. PROGRAMS FOR BACCALAUREATE DEGREES IN**  
2 **SCIENCE, TECHNOLOGY, ENGINEERING,**  
3 **MATHEMATICS, OR CRITICAL FOREIGN LAN-**  
4 **GUAGES, WITH CONCURRENT TEACHER CER-**  
5 **TIFICATION.**

6 (a) PROGRAM AUTHORIZED.—From the amounts  
7 made available to carry out this section under section  
8 6116(1) and not reserved under section 6115(d) for a fis-  
9 cal year, the Secretary is authorized to award grants, on  
10 a competitive basis, to eligible recipients to enable partner-  
11 ships served by the eligible recipients to develop and imple-  
12 ment programs to provide courses of study in science,  
13 technology, engineering, mathematics, or critical foreign  
14 languages that—

15 (1) are integrated with teacher education; and  
16 (2) lead to a baccalaureate degree in science,  
17 technology, engineering, mathematics, or a critical  
18 foreign language with concurrent teacher certifi-  
19 cation.

20 (b) APPLICATION.—Each eligible recipient desiring a  
21 grant under this section shall submit an application to the

1 Secretary at such time and in such manner as the Sec-  
2 retary may require. Each application shall—

3           (1) describe the program for which assistance is  
4 sought;

5           (2) describe how a department of science, tech-  
6 nology, engineering, mathematics, or a critical for-  
7 eign language participating in the partnership will  
8 ensure significant collaboration with a teacher prep-  
9 aration program in the development of under-  
10 graduate degrees in science, technology, engineering,  
11 mathematics, or a critical foreign language, with  
12 concurrent teacher certification, including providing  
13 student teaching and other clinical classroom experi-  
14 ences or how a department or school participating in  
15 the partnership with a competency-based degree pro-  
16 gram has ensured, in the development of a bacca-  
17 laurate degree program in science, technology, engi-  
18 neering, mathematics, or a critical foreign language,  
19 the provision of concurrent teacher certification, in-  
20 cluding providing student teaching and other clinical  
21 classroom experiences;



1           (3) describe the high-quality research, labora-  
2           tory, or internship experiences, integrated with  
3           coursework, that will be provided under the pro-  
4           gram;

5           (4) describe how members of groups that are  
6           underrepresented in the teaching of science, tech-  
7           nology, engineering, mathematics, or critical foreign  
8           languages will be encouraged to participate in the  
9           program;

10          (5) describe how program participants will be  
11          encouraged to teach in schools determined by the  
12          partnership to be most in need, and the assistance  
13          in finding employment in such schools that will be  
14          provided;

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

17          (7) describe how the activities of the partner-  
18          ship will be coordinated with any activities funded  
19          through other Federal grants, and how the partner-  
20          ship will continue the activities assisted under the  
21          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) PRIORITY.—Priority shall be given to applications  
7           whose primary focus is on placing participants in high-  
8           need local educational agencies.

9           (d) AUTHORIZED ACTIVITIES.—

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

16                   (A) are integrated with teacher education  
17                   programs that promote effective teaching skills;  
18                   and

19                   (B) lead to a baccalaureate degree in  
20                   science, technology, engineering, mathematics,

1           or a critical foreign language with concurrent  
2           teacher certification.

3           (2) PROGRAM REQUIREMENTS.—The program  
4           shall—

5                   (A) provide high-quality research, labora-  
6                   tory, or internship experiences for program par-  
7                   ticipants;

8                   (B) provide student teaching or other clin-  
9                   ical classroom experiences that—

10                           (i) are integrated with coursework;  
11                           and

12                                   (ii) lead to the participants' ability to  
13                                   demonstrate effective teaching skills;

14                   (C) if implementing a program in which  
15                   program participants are prepared to teach  
16                   science, technology, engineering, mathematics,  
17                   or critical foreign language courses, include  
18                   strategies for improving student literacy;

19                   (D) encourage the participation of individ-  
20                   uals who are members of groups that are  
21                   underrepresented in the teaching of science,

1 technology, engineering, mathematics, or crit-  
2 ical foreign languages;

3 (E) encourage participants to teach in  
4 schools determined by the partnership to be  
5 most in need, and actively assist the partici-  
6 pants in finding employment in such schools;

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

9 (G) collect data regarding and evaluate,  
10 using measurable objectives and benchmarks,  
11 the extent to which the program succeeded in—

12 (i) increasing the percentage of highly  
13 qualified mathematics, science, or critical  
14 foreign language teachers, including in-  
15 creasing the percentage of such teachers  
16 teaching in those schools determined by  
17 the partnership to be most in need;

18 (ii) improving student academic  
19 achievement in mathematics, science, and  
20 where applicable, technology and engineer-  
21 ing;

1 (iii) increasing the number of students  
2 in secondary schools enrolled in upper level  
3 mathematics, science, and, where available,  
4 technology and engineering courses; and

5 (iv) increasing the numbers of elemen-  
6 tary school and secondary school students  
7 enrolled in and continuing in critical for-  
8 eign language courses;

9 (H) collect data on the employment place-  
10 ment and retention of all graduates of the pro-  
11 gram, including information on how many grad-  
12 uates are teaching and in what kinds of schools;

13 (I) provide ongoing activities and services  
14 to graduates of the program who teach elemen-  
15 tary school or secondary school, by—

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

19 (ii) supporting the graduates of the  
20 program who are employed in schools in  
21 the local educational agency participating

1 in the partnership during the initial years  
2 of teaching through—

3 (I) induction programs;

4 (II) promotion of effective teach-  
5 ing skills; and

6 (III) providing opportunities for  
7 regular professional development; and

8 (J) develop recommendations to improve  
9 the school, department, or program of edu-  
10 cation participating in the partnership.

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

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

16 (2) information on the academic majors of par-  
17 ticipating students;

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

1           (4) the placement of program participants as  
2 teachers in schools determined by the partnership to  
3 be most in need;

4           (5) the extent to which the program succeeded  
5 in meeting the objectives and benchmarks described  
6 in subsection (d)(2)(G); and

7           (6) the data collected under subparagraphs (G)  
8 and (H) of subsection (d)(2).

9           (f) **TECHNICAL ASSISTANCE.**—From the funds made  
10 available under section 6116(1), the Secretary may pro-  
11 vide technical assistance to an eligible recipient developing  
12 a baccalaureate degree program with concurrent teacher  
13 certification, including technical assistance provided  
14 through a grant or contract awarded on a competitive  
15 basis to an institution of higher education or a technical  
16 assistance center.

17           (g) **COMPLIANCE WITH FERPA.**—Any activity under  
18 this section shall be carried out in compliance with section  
19 444 of the General Education Provisions Act (20 U.S.C.  
20 1232g) (commonly known as the Family Educational  
21 Rights and Privacy Act of 1974).

1           (h) INDUCTION PROGRAM DEFINED.—In this sec-  
2 tion, the term “induction program” means a formalized  
3 program for new teachers during not less than the teach-  
4 ers’ first 2 years of teaching that is designed to provide  
5 support for, and improve the professional performance and  
6 advance the retention in the teaching field of, beginning  
7 teachers. Such program shall promote effective teaching  
8 skills and shall include the following components:

9           (1) High-quality teacher mentoring.

10           (2) Periodic, structured time for collaboration  
11 with teachers in the same department or field, as  
12 well as time for information-sharing among teachers,  
13 principals, administrators, and participating faculty  
14 in the partner institution.

15           (3) The application of empirically based prac-  
16 tice and scientifically valid research on instructional  
17 practices.

18           (4) Opportunities for new teachers to draw di-  
19 rectly upon the expertise of teacher mentors, faculty,  
20 and researchers to support the integration of empiri-



1 cally based practice and scientifically valid research  
2 with practice.

3 (5) The development of skills in instructional  
4 and behavioral interventions derived from empirically  
5 based practice and, where applicable, scientifically  
6 valid research.

7 (6) Faculty who—

8 (A) model the integration of research and  
9 practice in the classroom; and

10 (B) assist new teachers with the effective  
11 use and integration of technology in the class-  
12 room.

13 (7) Interdisciplinary collaboration among exem-  
14 plary teachers, faculty, researchers, and other staff  
15 who prepare new teachers on the learning process  
16 and the assessment of learning.

17 (8) Assistance with the understanding of data,  
18 particularly student achievement data, and the  
19 data's applicability in classroom instruction.

20 (9) Regular evaluation of the new teacher.

1 **SEC. 6114. PROGRAMS FOR MASTER'S DEGREES IN**  
2 **SCIENCE, TECHNOLOGY, ENGINEERING,**  
3 **MATHEMATICS, OR CRITICAL FOREIGN LAN-**  
4 **GUAGE EDUCATION.**

5 (a) PROGRAM AUTHORIZED.—From the amounts  
6 made available to carry out this section under section  
7 6116(2) and not reserved under section 6115(d) for a fis-  
8 cal year, the Secretary is authorized to award grants, on  
9 a competitive basis, to eligible recipients to enable the  
10 partnerships served by the eligible recipients to develop  
11 and implement—

12 (1) 2- or 3-year part-time master's degree pro-  
13 grams in science, technology, engineering, mathe-  
14 matics, or critical foreign language education for  
15 teachers in order to enhance the teacher's content  
16 knowledge and teaching skills; or

17 (2) programs for professionals in science, tech-  
18 nology, engineering, mathematics, or a critical for-  
19 eign language that lead to a 1-year master's degree  
20 in teaching that results in teacher certification.

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

5           (1) how a department of science, technology,  
6 engineering, mathematics, or a critical foreign lan-  
7 guage will ensure significant collaboration with a  
8 school, department, or program of education in the  
9 development of the master's degree programs au-  
10 thORIZED under subsection (a), or how a department  
11 or school with a competency-based degree program  
12 has ensured, in the development of a master's degree  
13 program, the provision of rigorous studies in science,  
14 technology, engineering, mathematics, or a critical  
15 foreign language that enhance the teachers' content  
16 knowledge and teaching skills;

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

1           (3) how the program will help increase the per-  
2           centage of highly qualified mathematics, science, or  
3           critical foreign language teachers, including increas-  
4           ing the percentage of such teachers teaching in  
5           schools determined by the partnership to be most in  
6           need;

7           (4) how the program will—

8                   (A) improve student academic achievement  
9                   in mathematics, science, and, where applicable,  
10                   technology and engineering and increase the  
11                   number of students taking upper-level courses  
12                   in such subjects; or

13                   (B) increase the numbers of elementary  
14                   school and secondary school students enrolled  
15                   and continuing in critical foreign language  
16                   courses;

17           (5) how the program will prepare participants  
18           to become more effective science, technology, engi-  
19           neering, mathematics, or critical foreign language  
20           teachers;

1           (6) how the program will prepare participants  
2 to assume leadership roles in their schools;

3           (7) how teachers (or science, technology, engi-  
4 neering, mathematics, or critical foreign language  
5 professionals) who are members of groups that are  
6 underrepresented in the teaching of science, tech-  
7 nology, engineering, mathematics, or critical foreign  
8 languages and teachers from schools determined by  
9 the partnership to be most in need will be encour-  
10 aged to apply for and participate in the program;

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

13          (9) how the partnership will continue the activi-  
14 ties assisted under the grant when the grant period  
15 ends;

16          (10) how the partnership will assess, during the  
17 program, the content knowledge and teaching skills  
18 of the program participants; and

19          (11) methods to ensure applicants to the mas-  
20 ter's degree program for professionals in science,  
21 technology, engineering, mathematics, or a critical

1 foreign language demonstrate advanced knowledge in  
2 the relevant subject.

3 (c) AUTHORIZED ACTIVITIES.—Each eligible recipi-  
4 ent receiving a grant under this section shall use the grant  
5 funds to develop and implement a 2- or 3-year part-time  
6 master’s degree program in science, technology, engineer-  
7 ing, mathematics, or critical foreign language education  
8 for teachers in order to enhance the teachers’ content  
9 knowledge and teaching skills, or programs for profes-  
10 sionals in science, technology, engineering, mathematics,  
11 or a critical foreign language that lead to a 1-year mas-  
12 ter’s degree in teaching that results in teacher certifi-  
13 cation. The program shall—

14 (1) promote effective teaching skills so that pro-  
15 gram participants become more effective science,  
16 technology, engineering, mathematics, or critical for-  
17 eign language teachers;

18 (2) prepare teachers to assume leadership roles  
19 in their schools by participating in activities such as  
20 teacher mentoring, development of curricula that in-  
21 tegrate state of the art applications of science, tech-

1 nology, engineering, mathematics, or critical foreign  
2 language into the classroom, working with school ad-  
3 ministrators in establishing in-service professional  
4 development of teachers, and assisting in evaluating  
5 data and assessments to improve student academic  
6 achievement;

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

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

12 (5) if implementing a program in which partici-  
13 pants are prepared to teach science, technology, en-  
14 gineering, mathematics, or critical foreign language  
15 courses, provide strategies for improving student lit-  
16 eracy;

17 (6) align the content knowledge in the master's  
18 degree program with challenging student academic  
19 achievement standards and challenging academic  
20 content standards established by the State in which  
21 the program is conducted;

- 1 (7) encourage the participation of—
- 2 (A) individuals who are members of groups
- 3 that are underrepresented in the teaching of
- 4 science, technology, engineering, mathematics,
- 5 or critical foreign languages;
- 6 (B) members of the Armed Forces who are
- 7 transitioning to civilian life; and
- 8 (C) teachers teaching in schools deter-
- 9 mined by the partnership to be most in need;
- 10 (8) offer tuition assistance, based on need, as
- 11 appropriate;
- 12 (9) create opportunities for enhanced and ongo-
- 13 ing professional development for teachers that im-
- 14 proves the science, technology, engineering, mathe-
- 15 matics, and critical foreign language content knowl-
- 16 edge and teaching skills of such teachers; and
- 17 (10) evaluate and report on the impact of the
- 18 program, in accordance with subsection (d).
- 19 (d) EVALUATION AND REPORT.—Each eligible recipi-
- 20 ent receiving a grant under this section shall evaluate,
- 21 using measurable objectives and benchmarks, and provide



1 an annual report to the Secretary regarding, the extent  
2 to which the program assisted under this section suc-  
3 ceeded in the following:

4 (1) Increasing the number and percentage of  
5 science, technology, engineering, mathematics, or  
6 critical foreign language teachers who have a mas-  
7 ter's degree and meet 1 or more of the following re-  
8 quirements:

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

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

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

1           (2) Bringing professionals in science, tech-  
2           nology, engineering, mathematics, or a critical for-  
3           eign language into the field of teaching.

4           (3) Retaining teachers who participate in the  
5           program.

6 **SEC. 6115. GENERAL PROVISIONS.**

7           (a) DURATION OF GRANTS.—The Secretary shall  
8           award each grant under this part for a period of not more  
9           than 5 years.

10          (b) MATCHING REQUIREMENT.—Each eligible recipi-  
11          ent that receives a grant under this part shall provide,  
12          from non-Federal sources, an amount equal to 50 percent  
13          of the amount of the grant (which may be provided in cash  
14          or in kind) to carry out the activities supported by the  
15          grant.

16          (c) SUPPLEMENT, NOT SUPPLANT.—Grant funds  
17          provided under this part shall be used to supplement, and  
18          not supplant, other Federal or State funds.

19          (d) EVALUATION.—From amounts made available for  
20          any fiscal year under section 6116, the Secretary shall re-  
21          serve such sums as may be necessary—

1           (1) to provide for the conduct of an annual  
2 independent evaluation, by grant or by contract, of  
3 the activities assisted under this part, which shall in-  
4 clude an assessment of the impact of the activities  
5 on student academic achievement; and

6           (2) to prepare and submit an annual report on  
7 the results of the evaluation described in paragraph  
8 (1) to the Committee on Health, Education, Labor,  
9 and Pensions of the Senate, the Committee on Edu-  
10 cation and Labor of the House of Representatives,  
11 and the Committees on Appropriations of the Senate  
12 and House of Representatives.

13 **SEC. 6116. AUTHORIZATION OF APPROPRIATIONS.**

14       There are authorized to be appropriated to carry out  
15 this section \$276,200,000 for fiscal year 2008, and such  
16 sums as may be necessary for each of the 2 succeeding  
17 fiscal years, of which—

18           (1) \$151,200,000 shall be available to carry out  
19 section 6113 for fiscal year 2008 and each suc-  
20 ceeding fiscal year; and

1           (2) \$125,000,000 shall be available to carry out  
2           section 6114 for fiscal year 2008 and each suc-  
3           ceeding fiscal year.

4           **PART II—ADVANCED PLACEMENT AND**  
5           **INTERNATIONAL BACCALAUREATE PROGRAMS**  
6           **SEC. 6121. PURPOSE.**

7           It is the purpose of this part—

8           (1) to raise academic achievement through Ad-  
9           vanced Placement and International Baccalaureate  
10          programs by increasing, by 70,000, over a 4-year pe-  
11          riod beginning in 2008, the number of teachers serv-  
12          ing high-need schools who are qualified to teach Ad-  
13          vanced Placement or International Baccalaureate  
14          courses in mathematics, science, and critical foreign  
15          languages;

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

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

1 (B) achieve a passing score on an examina-  
2 tion administered by the International Bacca-  
3 laurate Organization in such a subject;

4 (3) to increase the availability of, and enroll-  
5 ment in, Advanced Placement or International Bac-  
6 calaureate courses in mathematics, science, and crit-  
7 ical foreign languages, and pre-Advanced Placement  
8 or pre-International Baccalaureate courses in such  
9 subjects, in high-need schools; and

10 (4) to support statewide efforts to increase the  
11 availability of, and enrollment in, Advanced Place-  
12 ment or International Baccalaureate courses in  
13 mathematics, science, and critical foreign languages,  
14 and pre-Advanced Placement or pre-International  
15 Baccalaureate courses in such subjects, in high-need  
16 schools.

17 **SEC. 6122. DEFINITIONS.**

18 In this part:

19 (1) **ADVANCED PLACEMENT OR INTERNATIONAL**  
20 **BACCALAUREATE COURSE.**—The term “Advanced

1 Placement or International Baccalaureate course”  
2 means—

3 (A) a course of college-level instruction  
4 provided to secondary school students, termi-  
5 nating in an examination administered by the  
6 College Board or the International Bacca-  
7 laureate Organization, or another such exam-  
8 ination approved by the Secretary; or

9 (B) another highly rigorous, evidence-  
10 based, postsecondary preparatory program ter-  
11 minating in an examination administered by an-  
12 other nationally recognized educational organi-  
13 zation that has a demonstrated record of effec-  
14 tiveness in assessing secondary school students,  
15 or another such examination approved by the  
16 Secretary.

17 (2) ELIGIBLE ENTITY.—The term “eligible enti-  
18 ty” means—

19 (A) a State educational agency;

20 (B) a local educational agency; or

21 (C) a partnership consisting of—

1 (i) a national, regional, or statewide  
2 nonprofit organization, with expertise and  
3 experience in providing Advanced Place-  
4 ment or International Baccalaureate serv-  
5 ices; and

6 (ii) a State educational agency or  
7 local educational agency.

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

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

18 (5) HIGH-NEED LOCAL EDUCATIONAL AGEN-  
19 CY.—The term “high-need local educational agency”  
20 means a local educational agency or educational  
21 service agency described in 6112(3)(A).

1           (6) HIGH-NEED SCHOOL.—The term “high-need  
2 school” means a secondary school—

3           (A) with a pervasive need for Advanced  
4 Placement or International Baccalaureate  
5 courses in mathematics, science, or critical for-  
6 eign languages, or for additional Advanced  
7 Placement or International Baccalaureate  
8 courses in such a subject; and

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

11           (ii) designated with a school locale code of  
12 41, 42, or 43, as determined by the Secretary.

13 **SEC. 6123. ADVANCED PLACEMENT AND INTERNATIONAL**  
14 **BACCALAUREATE PROGRAMS.**

15           (a) PROGRAM AUTHORIZED.—From the amounts ap-  
16 propriated under subsection (l), the Secretary is author-  
17 ized to award grants, on a competitive basis, to eligible  
18 entities to enable the eligible entities to carry out the au-  
19 thorized activities described in subsection (g).



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

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

8           (d) PRIORITY.—In awarding grants under this sec-  
9 tion, the Secretary shall give priority to eligible entities  
10 that are part of a statewide strategy for increasing—

11           (1) the availability of Advanced Placement or  
12 International Baccalaureate courses in mathematics,  
13 science, and critical foreign languages, and pre-Ad-  
14 vanced Placement or pre-International Bacca-  
15 laureate courses in such subjects, in high-need  
16 schools; and

17           (2) the number of students who participate in  
18 Advanced Placement or International Baccalaureate  
19 courses in mathematics, science, and critical foreign  
20 language in high-need schools, and take and score a  
21 3, 4, or 5 on an Advanced Placement examination

1 in such a subject, or pass an examination adminis-  
2 tered by the International Baccalaureate Organiza-  
3 tion in such a subject in such schools.

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

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

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

12 (f) **APPLICATION.**—

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

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

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

1 (i) increasing the number of teachers  
2 serving high-need schools who are qualified  
3 to teach Advanced Placement or Inter-  
4 national Baccalaureate courses in mathe-  
5 matics, science, or critical foreign lan-  
6 guages;

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

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

20 (iv) increasing the number of students  
21 attending a high-need school, particularly

1 low-income students, who enroll in and  
2 pass—

3 (I) Advanced Placement or Inter-  
4 national Baccalaureate courses in  
5 mathematics, science, or critical for-  
6 eign languages; and

7 (II) pre-Advanced Placement or  
8 pre-International Baccalaureate  
9 courses in such a subject (where pro-  
10 vided in accordance with subpara-  
11 graph (B));

12 (B) how the eligible entity will ensure that  
13 students have access to courses, including pre-  
14 Advanced Placement and pre-International Bac-  
15 calaureate courses, that will prepare the stu-  
16 dents to enroll and succeed in Advanced Place-  
17 ment or International Baccalaureate courses in  
18 mathematics, science, or critical foreign lan-  
19 guages;

1           (C) how the eligible entity will provide pro-  
2           fessional development for teachers assisted  
3           under this section;

4           (D) how the eligible entity will ensure that  
5           teachers serving high-need schools are qualified  
6           to teach Advanced Placement or International  
7           Baccalaureate courses in mathematics, science,  
8           or critical foreign languages;

9           (E) how the eligible entity will provide for  
10          the involvement of business and community or-  
11          ganizations and other entities, including institu-  
12          tions of higher education, in the activities to be  
13          assisted; and

14          (F) how the eligible entity will use funds  
15          received under this section, including how the  
16          eligible entity will evaluate the success of its  
17          project.

18          (g) AUTHORIZED ACTIVITIES.—

19           (1) IN GENERAL.—Each eligible entity that re-  
20          ceives a grant under this section shall use the grant  
21          funds to carry out activities designed to increase—

1           (A) the number of qualified teachers serv-  
2           ing high-need schools who are teaching Ad-  
3           vanced Placement or International Bacca-  
4           laureate courses in mathematics, science, or  
5           critical foreign languages; and

6           (B) the number of students attending  
7           high-need schools who enroll in, and pass, the  
8           examinations for such Advanced Placement or  
9           International Baccalaureate courses.

10          (2) PERMISSIVE ACTIVITIES.—The activities de-  
11          scribed in paragraph (1) may include—

12           (A) teacher professional development, in  
13           order to expand the pool of teachers in the par-  
14           ticipating State, local educational agency, or  
15           high-need school who are qualified to teach Ad-  
16           vanced Placement or International Bacca-  
17           laureate courses in mathematics, science, or  
18           critical foreign languages;

19           (B) pre-Advanced Placement or pre-Inter-  
20           national Baccalaureate course development and  
21           professional development;

1           (C) coordination and articulation between  
2           grade levels to prepare students to enroll and  
3           succeed in Advanced Placement or International  
4           Baccalaureate courses in mathematics, science,  
5           or critical foreign languages;

6           (D) purchase of instructional materials;

7           (E) activities to increase the availability of,  
8           and participation in, online Advanced Place-  
9           ment or International Baccalaureate courses in  
10          mathematics, science, and critical foreign lan-  
11          guages;

12          (F) reimbursing low-income students at-  
13          tending high-need schools for part or all of the  
14          cost of Advanced Placement or International  
15          Baccalaureate examination fees;

16          (G) carrying out subsection (j), relating to  
17          collecting and reporting data;

18          (H) in the case of a State educational  
19          agency that receives a grant under this section,  
20          awarding subgrants to local educational agen-  
21          cies to enable the local educational agencies to

1 carry out authorized activities described in sub-  
2 paragraphs (A) through (G); and

3 (I) providing salary increments or bonuses  
4 to teachers serving high-need schools who—

5 (i) become qualified to teach, and  
6 teach, Advanced Placement or Inter-  
7 national Baccalaureate courses in mathe-  
8 matics, science, or a critical foreign lan-  
9 guage; or

10 (ii) increase the number of low-income  
11 students, who take Advanced Placement or  
12 International Baccalaureate examinations  
13 in mathematics, science, or a critical for-  
14 eign language with the goal of successfully  
15 passing such examinations.

16 (h) MATCHING REQUIREMENT.—

17 (1) IN GENERAL.—Subject to paragraph (2),  
18 each eligible entity that receives a grant under this  
19 section shall provide, toward the cost of the activities  
20 assisted under the grant, from non-Federal sources,  
21 an amount equal to 200 percent of the amount of



1 the grant, except that an eligible entity that is a  
2 high-need local educational agency shall provide an  
3 amount equal to not more than 100 percent of the  
4 amount of the grant.

5 (2) WAIVER.—The Secretary may waive all or  
6 part of the matching requirement described in para-  
7 graph (1) for any fiscal year for an eligible entity  
8 described in subparagraph (A) or (B) of section  
9 6122(2), if the Secretary determines that applying  
10 the matching requirement to such eligible entity  
11 would result in serious hardship or an inability to  
12 carry out the authorized activities described in sub-  
13 section (g).

14 (i) SUPPLEMENT NOT SUPPLANT.—Grant funds pro-  
15 vided under this section shall be used to supplement, not  
16 supplant, other Federal and non-Federal funds available  
17 to carry out the activities described in subsection (g).

18 (j) COLLECTING AND REPORTING REQUIREMENTS.—

19 (1) REPORT.—Each eligible entity receiving a  
20 grant under this section shall collect and report to  
21 the Secretary annually such data on the results of

1 the grant as the Secretary may reasonably require,  
2 including data regarding—

3 (A) the number of students enrolling in  
4 Advanced Placement or International Bacca-  
5 laureate courses in mathematics, science, or a  
6 critical foreign language, and pre-Advanced  
7 Placement or pre-International Baccalaureate  
8 courses in such a subject, by the grade the stu-  
9 dent is enrolled in, and the distribution of  
10 grades those students receive;

11 (B) the number of students taking Ad-  
12 vanced Placement or International Bacca-  
13 laureate examinations in mathematics, science,  
14 or a critical foreign language, and the distribu-  
15 tion of scores on those examinations by the  
16 grade the student is enrolled in at the time of  
17 the examination;

18 (C) the number of teachers receiving train-  
19 ing in teaching Advanced Placement or Inter-  
20 national Baccalaureate courses in mathematics,  
21 science, or a critical foreign language who will

1           be teaching such courses in the next school  
2           year;

3           (D) the number of teachers becoming  
4           qualified to teach Advanced Placement or Inter-  
5           national Baccalaureate courses in mathematics,  
6           science, or a critical foreign language; and

7           (E) the number of qualified teachers who  
8           are teaching Advanced Placement or Inter-  
9           national Baccalaureate courses in mathematics,  
10          science, or critical foreign languages to students  
11          in a high-need school.

12          (2) REPORTING OF DATA.—Each eligible entity  
13          receiving a grant under this section shall report data  
14          required under paragraph (1)—

15               (A) disaggregated by subject area;

16               (B) in the case of student data,  
17               disaggregated in the same manner as informa-  
18               tion is disaggregated under section  
19               1111(h)(1)(C)(i) of the Elementary and Sec-  
20               ondary Education Act of 1965 (20 U.S.C.  
21               6311(h)(1)(C)(i)); and

1                   (C) to the extent feasible, in a manner that  
2                   allows comparison of conditions before, during,  
3                   and after the project.

4       (k) EVALUATION AND REPORT.—From the amount  
5 made available for any fiscal year under subsection (l),  
6 the Secretary shall reserve such sums as may be nec-  
7 essary—

8                   (1) to conduct an annual independent evalua-  
9                   tion, by grant or by contract, of the program carried  
10                  out under this section, which shall include an assess-  
11                  ment of the impact of the program on student aca-  
12                  demic achievement; and

13                  (2) to prepare and submit an annual report on  
14                  the results of the evaluation described in paragraph  
15                  (1) to the Committee on Health, Education, Labor,  
16                  and Pensions of the Senate, the Committee on Edu-  
17                  cation and Labor of the House of Representatives,  
18                  and the Committees on Appropriations of the Senate  
19                  and House of Representatives.

20       (l) AUTHORIZATION OF APPROPRIATIONS.—There  
21 are authorized to be appropriated to carry out this section

1 \$75,000,000 for fiscal year 2008, and such sums as may  
2 be necessary for each of the 2 succeeding fiscal years.

3 **PART III—PROMISING PRACTICES IN SCIENCE,**  
4 **TECHNOLOGY, ENGINEERING, AND MATHE-**  
5 **MATICS TEACHING**

6 **SEC. 6131. PROMISING PRACTICES.**

7 (a) PURPOSE.—The purpose of this section is to es-  
8 tablish an expert panel to provide information on prom-  
9 ising practices for strengthening teaching and learning in  
10 science, technology, engineering, and mathematics at the  
11 elementary school and secondary school levels. The panel  
12 shall build on prior Federal efforts, such as efforts by the  
13 National Mathematics Advisory Panel, and shall syn-  
14 thesize scientific evidence pertaining to the improvement  
15 of science, technology, engineering, and mathematics  
16 teaching and learning.

17 (b) NATIONAL PANEL ON PROMISING PRACTICES IN  
18 K-12 STEM TEACHING AND LEARNING.—

19 (1) IN GENERAL.—The Secretary shall enter  
20 into a contract with the Center for Education of the  
21 National Academy of Sciences to establish and con-

1       vene, not later than 1 year after the date of enact-  
2       ment of this Act, an expert panel to—

3               (A) identify promising practices for im-  
4               proving teaching and student achievement in  
5               science, technology, engineering, and mathe-  
6               matics in kindergarten through grade 12; and

7               (B) examine and synthesize the scientific  
8               evidence pertaining to the improvement of  
9               science, technology, engineering, and mathe-  
10              matics teaching and learning.

11             (2) COMPOSITION OF NATIONAL PANEL.—The  
12             National Academy of Sciences shall ensure that the  
13             panel established under paragraph (1) represents  
14             scientists, engineers, mathematicians, technologists,  
15             computer and information technology experts, edu-  
16             cators, principals, researchers with expertise in  
17             teaching and learning (including experts in cognitive  
18             science), and others with relevant expertise. The Na-  
19             tional Academy of Sciences shall ensure that the  
20             panel includes the following:

1           (A) Representation of teachers and prin-  
2           cipals directly involved in teaching science, tech-  
3           nology, engineering, and mathematics in kinder-  
4           garten through grade 12.

5           (B) Representation of teachers and prin-  
6           cipals from diverse demographic groups and ge-  
7           ographic areas, including urban, suburban, and  
8           rural schools.

9           (C) Representation of teachers and prin-  
10          cipals from public and private schools.

11          (3) QUALIFICATION OF MEMBERS.—The mem-  
12          bers of the panel established under paragraph (1)  
13          shall be individuals who have expertise and experi-  
14          ence relating to—

15               (A) existing science, technology, engineer-  
16               ing, and mathematics education programs;

17               (B) developing and improving science,  
18               technology, engineering, and mathematics cur-  
19               ricula content;

20               (C) improving the academic achievement of  
21               students who are below grade level in science,

1           technology, engineering, and mathematics  
2           fields; and

3                   (D) research on teaching or learning.

4       (c) AUTHORIZED ACTIVITIES OF NATIONAL  
5 PANEL.—The panel established under subsection (b) shall  
6 identify—

7           (1) promising practices in the effective teaching  
8           and learning of science, technology, engineering, and  
9           mathematics topics in kindergarten through grade  
10          12;

11          (2) promising training and professional develop-  
12          ment techniques designed to help teachers increase  
13          their skills and expertise in improving student  
14          achievement in science, technology, engineering, and  
15          mathematics in kindergarten through grade 12;

16          (3) critical skills and skills progressions needed  
17          to enable students to acquire competence in science,  
18          technology, engineering, and mathematics and readi-  
19          ness for advanced secondary school and college level  
20          science, technology, engineering, and mathematics  
21          coursework;



1           (4) processes by which students with varying  
2           degrees of prior academic achievement and back-  
3           grounds learn effectively in the science, technology,  
4           engineering, and mathematics fields; and

5           (5) areas in which existing data about prom-  
6           ising practices in science, technology, engineering,  
7           and mathematics education are insufficient.

8           (d) REPORT.—The panel established under sub-  
9           section (b) shall prepare a written report for the Secretary  
10          that presents the findings of the panel pursuant to this  
11          section and includes recommendations, based on the find-  
12          ings of the panel, to strengthen science, technology, engi-  
13          neering, and mathematics teaching and learning in kinder-  
14          garten through grade 12.

15          (e) DISSEMINATION.—The Secretary shall dissemi-  
16          nate the report under subsection (d) to the public, State  
17          educational agencies, and local educational agencies, and  
18          shall make the information in such report available, in an  
19          easy to understand format, on the website of the Depart-  
20          ment.

1 (f) SCIENCE, TECHNOLOGY, ENGINEERING, AND  
2 MATHEMATICS PROMISING PRACTICES.—

3 (1) RELIABILITY AND MEASUREMENT.—The  
4 promising practices in the teaching of science, tech-  
5 nology, engineering, and mathematics in elementary  
6 schools and secondary schools collected under this  
7 section shall be—

8 (A) reliable, valid, and grounded in sci-  
9 entifically valid research;

10 (B) inclusive of the critical skills and skill  
11 progressions needed for students to acquire  
12 competence in science, technology, engineering,  
13 and mathematics;

14 (C) reviewed regularly to assess effective-  
15 ness; and

16 (D) reviewed in the context of State aca-  
17 demic assessments and student academic  
18 achievement standards.

19 (2) STUDENTS WITH DIVERSE LEARNING  
20 NEEDS.—In identifying promising practices under  
21 this section, the panel established under subsection

1 (b) shall take into account the needs of students  
2 with diverse learning needs, particularly students  
3 with disabilities and students who are limited  
4 English proficient.

5 (g) AUTHORIZATION OF APPROPRIATIONS.—There  
6 are authorized to be appropriated to carry out this section  
7 \$1,200,000 for fiscal year 2008.

## 8 **Subtitle B—Mathematics**

### 9 **SEC. 6201. MATH NOW FOR ELEMENTARY SCHOOL AND MID-** 10 **DLE SCHOOL STUDENTS PROGRAM.**

11 (a) PURPOSE.—The purpose of this section is to en-  
12 able all students to reach or exceed grade-level academic  
13 achievement standards and to prepare the students to en-  
14 roll in and pass algebra courses by—

15 (1) improving instruction in mathematics for  
16 students in kindergarten through grade 9 through  
17 the implementation of mathematics programs and  
18 the support of comprehensive mathematics initiatives  
19 that are research-based and reflect a demonstrated  
20 record of effectiveness; and

1           (2) providing targeted help to low-income stu-  
2           dents who are struggling with mathematics and  
3           whose achievement is significantly below grade level.

4           (b) DEFINITION OF ELIGIBLE LOCAL EDUCATIONAL  
5 AGENCY.—In this section, the term “eligible local edu-  
6 cational agency” means a high-need local educational  
7 agency (as defined in section 6112(3)) serving 1 or more  
8 schools—

9           (1) with significant numbers or percentages of  
10          students whose mathematics skills are below grade  
11          level;

12          (2) that are not making adequate yearly  
13          progress in mathematics under section 1111(b)(2) of  
14          the Elementary and Secondary Education Act of  
15          1965 (20 U.S.C. 6311(b)(2)); or

16          (3) in which students are receiving instruction  
17          in mathematics from teachers who do not have  
18          mathematical content knowledge or expertise in the  
19          teaching of mathematics.

20          (c) PROGRAM AUTHORIZED.—

1           (1) IN GENERAL.—From the amounts appro-  
2           priated under subsection (k) for any fiscal year, the  
3           Secretary is authorized to award grants, on a com-  
4           petitive basis, for not more than 5 years, to State  
5           educational agencies to enable the State educational  
6           agencies to award grants to eligible local educational  
7           agencies to carry out the activities described in sub-  
8           section (e) for students in any of the grades kinder-  
9           garten through grade 9.

10           (2) PRIORITY.—In awarding grants under this  
11           section, the Secretary shall give priority to applica-  
12           tions for projects that will implement statewide  
13           strategies for improving mathematics instruction  
14           and raising the mathematics achievement of stu-  
15           dents, particularly students in grades 4 through 8.

16           (d) STATE USES OF FUNDS.—

17           (1) IN GENERAL.—Each State educational  
18           agency that receives a grant under this section for  
19           a fiscal year—

20                   (A) shall expend not more than a total of  
21           10 percent of the grant funds to carry out the

1 activities described in paragraphs (2) or (3) for  
2 the fiscal year; and

3 (B) shall use not less than 90 percent of  
4 the grant funds to award grants, on a competi-  
5 tive basis, to eligible local educational agencies  
6 to enable the eligible local educational agencies  
7 to carry out the activities described in sub-  
8 section (e) for the fiscal year.

9 (2) MANDATORY USES OF FUNDS.—A State  
10 educational agency shall use the grant funds made  
11 available under paragraph (1)(A) to carry out each  
12 of the following activities:

13 (A) PLANNING AND ADMINISTRATION.—  
14 Planning and administration, including—

15 (i) evaluating applications from eligi-  
16 ble local educational agencies using peer  
17 review teams described in subsection  
18 (f)(1)(D);

19 (ii) administering the distribution of  
20 grants to eligible local educational agen-  
21 cies; and

1 (iii) assessing and evaluating, on a  
2 regular basis, eligible local educational  
3 agency activities assisted under this sec-  
4 tion, with respect to whether the activities  
5 have been effective in increasing the num-  
6 ber of students—

7 (I) making progress toward meet-  
8 ing grade-level mathematics achieve-  
9 ment; and

10 (II) meeting or exceeding grade-  
11 level mathematics achievement.

12 (B) REPORTING.—Annually providing the  
13 Secretary with a report on the implementation  
14 of this section as described in subsection (i).

15 (3) PERMISSIVE USES OF FUNDS; TECHNICAL  
16 ASSISTANCE.—

17 (A) IN GENERAL.—A State educational  
18 agency may use the grant funds made available  
19 under paragraph (1)(A) for 1 or more of the  
20 following technical assistance activities that as-  
21 sist an eligible local educational agency, upon

1 request by the eligible local educational agency,  
2 in accomplishing the tasks required to design  
3 and implement a project under this section, in-  
4 cluding assistance in—

5 (i) implementing mathematics pro-  
6 grams or comprehensive mathematics ini-  
7 tiatives that are research-based and reflect  
8 a demonstrated record of effectiveness;

9 (ii) evaluating and selecting diagnostic  
10 and classroom based instructional mathe-  
11 matics assessments; and

12 (iii) identifying eligible professional  
13 development providers to conduct the pro-  
14 fessional development activities described  
15 in subsection (e)(1)(B).

16 (B) GUIDANCE.—The technical assistance  
17 described in subparagraph (A) shall be guided  
18 by researchers with expertise in the pedagogy of  
19 mathematics, mathematicians, and mathematics  
20 educators from high-risk, high-achievement  
21 schools and eligible local educational agencies.



1 (e) LOCAL USES OF FUNDS.—

2 (1) MANDATORY USES OF FUNDS.—Each eligi-  
3 ble local educational agency receiving a grant under  
4 this section shall use the grant funds to carry out  
5 each of the following activities for students in any of  
6 the grades kindergarten through grade 9:

7 (A) To implement mathematics programs  
8 or comprehensive mathematics initiatives—

9 (i) for students in the grades of a par-  
10 ticipating school as identified in the appli-  
11 cation submitted under subsection  
12 (f)(2)(B); and

13 (ii) that are research-based and reflect  
14 a demonstrated record of effectiveness.

15 (B) To provide professional development  
16 and instructional leadership activities for teach-  
17 ers and, if appropriate, for administrators and  
18 other school staff, on the implementation of  
19 comprehensive mathematics initiatives de-  
20 signed—

1 (i) to improve the achievement of stu-  
2 dents performing significantly below grade  
3 level;

4 (ii) to improve the mathematical con-  
5 tent knowledge of the teachers, administra-  
6 tors, and other school staff;

7 (iii) to increase the use of effective in-  
8 structional practices; and

9 (iv) to monitor student progress.

10 (C) To conduct continuous progress moni-  
11 toring, which may include the adoption and use  
12 of assessments that—

13 (i) measure student progress and  
14 identify areas in which students need help  
15 in learning mathematics; and

16 (ii) reflect mathematics content that  
17 is consistent with State academic achieve-  
18 ment standards in mathematics described  
19 in section 1111(b) of the Elementary and  
20 Secondary Education Act of 1965 (20  
21 U.S.C. 6311(b)).

1           (2) PERMISSIVE USES OF FUNDS.—An eligible  
2           local educational agency may use grant funds under  
3           this section to—

4                   (A) adopt and use mathematics instruc-  
5                   tional materials and assessments;

6                   (B) implement classroom-based assess-  
7                   ments, including diagnostic or formative assess-  
8                   ments;

9                   (C) provide remedial coursework and inter-  
10                  ventions for students, which may be provided  
11                  before or after school;

12                  (D) provide small groups with individual-  
13                  ized instruction in mathematics;

14                  (E) conduct activities designed to improve  
15                  the content knowledge and expertise of teach-  
16                  ers, such as the use of a mathematics coach,  
17                  enrichment activities, and interdisciplinary  
18                  methods of mathematics instruction; and

19                  (F) collect and report performance data.

20           (f) APPLICATIONS.—

1           (1) STATE EDUCATIONAL AGENCY.—Each State  
2           educational agency desiring a grant under this sec-  
3           tion shall submit an application to the Secretary at  
4           such time and in such manner as the Secretary may  
5           require. Each application shall include—

6                   (A) an assurance that the core mathe-  
7                   matics instructional program, supplemental in-  
8                   structional materials, and intervention pro-  
9                   grams used by the eligible local educational  
10                  agencies for the project, are research-based and  
11                  reflect a demonstrated record of effectiveness  
12                  and are aligned with State academic achieve-  
13                  ment standards;

14                   (B) an assurance that eligible local edu-  
15                   cational agencies will meet the requirements de-  
16                   scribed in paragraph (2);

17                   (C) an assurance that local applications  
18                   will be evaluated using a peer review process;

19                   (D) a description of the qualifications of  
20                   the peer review teams, which shall consist of—

1 (i) researchers with expertise in the  
2 pedagogy of mathematics;

3 (ii) mathematicians; and

4 (iii) mathematics educators serving  
5 high-risk, high-achievement schools and eli-  
6 gible local educational agencies; and

7 (E) an assurance that the State has a  
8 process to safeguard against conflicts of inter-  
9 est consistent with subsection (j)(2) and section  
10 6204 for individuals providing technical assist-  
11 ance on behalf of the State educational agency  
12 or participating in the State peer review process  
13 under this subtitle.

14 (2) ELIGIBLE LOCAL EDUCATIONAL AGENCY.—  
15 Each eligible local educational agency desiring a  
16 grant under this section shall submit an application  
17 to the State educational agency at such time and in  
18 such manner as the State educational agency may  
19 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 6201(b);

7           (B) a description of the grades, and of the  
8 schools, that will be served;

9           (C) information, on an aggregate basis, on  
10 each school to be served by the project, includ-  
11 ing such demographic, socioeconomic, and  
12 mathematics achievement data as the State  
13 educational agency may request;

14           (D) a description of the core mathematics  
15 instructional program, supplemental instruc-  
16 tional materials, and intervention programs or  
17 strategies that will be used for the project, in-  
18 cluding an assurance that the programs or  
19 strategies are research-based and reflect a dem-  
20 onstrated record of effectiveness and are

1 aligned with State academic achievement stand-  
2 ards;

3 (E) a description of the activities that will  
4 be carried out under the grant, including a de-  
5 scription of the professional development that  
6 will be provided to teachers, and, if appropriate,  
7 administrators and other school staff, and a de-  
8 scription of how the activities will support  
9 achievement of the purpose of this section;

10 (F) an assurance that the eligible local  
11 educational agency will report to the State edu-  
12 cational agency all data on student academic  
13 achievement that is necessary for the State edu-  
14 cational agency's report under subsection (i);

15 (G) a description of the eligible entity's  
16 plans for evaluating the impact of professional  
17 development and leadership activities in mathe-  
18 matics on the content knowledge and expertise  
19 of teachers, administrators, or other school  
20 staff; and

1                   (H) any other information the State edu-  
2                   cational agency may reasonably require.

3           (g) PROHIBITIONS.—

4                   (1) IN GENERAL.—In implementing this sec-  
5                   tion, the Secretary shall not—

6                           (A) endorse, approve, or sanction any  
7                           mathematics curriculum designed for use in any  
8                           school; or

9                           (B) engage in oversight, technical assist-  
10                          ance, or activities that will require the adoption  
11                          of a specific mathematics program or instruc-  
12                          tional materials by a State, local educational  
13                          agency, or school.

14                   (2) RULE OF CONSTRUCTION.—Nothing in this  
15                   subtitle shall be construed to authorize or permit the  
16                   Department of Education, or a Department of Edu-  
17                   cation contractor, to mandate, direct, control, or  
18                   suggest the selection of a mathematics curriculum,  
19                   supplemental instructional materials, or program of  
20                   instruction by a State, local educational agency, or  
21                   school.



1 (h) MATCHING REQUIREMENTS.—

2 (1) STATE EDUCATIONAL AGENCY.—A State  
3 educational agency that receives a grant under this  
4 section shall provide, from non-Federal sources, an  
5 amount equal to 50 percent of the amount of the  
6 grant, in cash or in kind, to carry out the activities  
7 supported by the grant, of which not more than 20  
8 percent of such 50 percent may be provided by local  
9 educational agencies within the State.

10 (2) WAIVER.—The Secretary may waive all of  
11 or a portion of the matching requirement described  
12 in paragraph (1) for any fiscal year, if the Secretary  
13 determines that—

14 (A) the application of the matching re-  
15 quirement will result in serious hardship for the  
16 State educational agency; or

17 (B) providing a waiver best serves the pur-  
18 pose of the program assisted under this section.

19 (i) PROGRAM PERFORMANCE AND ACCOUNT-  
20 ABILITY.—



1 (I) significantly increased the  
2 number of students achieving at grade  
3 level or above in mathematics;

4 (II) significantly increased the  
5 percentages of students described in  
6 section 1111(b)(2)(C)(v)(II) of the El-  
7 elementary and Secondary Education  
8 Act of 1965 (20 U.S.C.  
9 6311(b)(2)(C)(v)(II)) who are achiev-  
10 ing at grade level or above in mathe-  
11 matics;

12 (III) significantly increased the  
13 number of students making significant  
14 progress toward meeting grade-level  
15 mathematics achievement standards;  
16 and

17 (IV) successfully implemented  
18 this section;

19 (B) the percentage of students in the  
20 schools served by the eligible local educational  
21 agency who enroll in algebra courses and the

1 percentage of such students who pass algebra  
2 courses; and

3 (C) the progress made in increasing the  
4 quality and accessibility of professional develop-  
5 ment and leadership activities in mathematics,  
6 especially activities resulting in greater content  
7 knowledge and expertise of teachers, adminis-  
8 trators, and other school staff, except that the  
9 Secretary shall not require such information  
10 until after the third year of a grant awarded  
11 under this section.

12 (2) REPORTING AND DISAGGREGATION.—The  
13 information required under paragraph (1) shall be—

14 (A) reported in a manner that allows for a  
15 comparison of aggregated score differentials of  
16 student academic achievement before (to the ex-  
17 tent feasible) and after implementation of the  
18 project assisted under this section; and

19 (B) disaggregated in the same manner as  
20 information is disaggregated under section  
21 1111(h)(1)(C)(i) of the Elementary and Sec-

1           ondary Education Act of 1965 (20 U.S.C.  
2           6311(h)(1)(C)(i)).

3           (3) PRIVACY PROTECTION.—The data in the re-  
4           port shall be reported in a manner that—

5                   (A) protects the privacy of individuals; and

6                   (B) complies with the requirements of sec-  
7           tion 444 of the General Education Provisions  
8           Act (20 U.S.C. 1232g) (commonly known as  
9           the Family Educational Rights and Privacy Act  
10          of 1974).

11          (j) EVALUATION AND TECHNICAL ASSISTANCE.—

12                  (1) EVALUATION.—

13                   (A) IN GENERAL.—The Secretary shall  
14                  conduct an annual independent evaluation, by  
15                  grant or by contract, of the program assisted  
16                  under this section, which shall include an as-  
17                  sessment of the impact of the program on stu-  
18                  dent academic achievement and teacher per-  
19                  formance, and may use funds available to carry  
20                  out this section to conduct the evaluation.

1           (B) REPORT.—The Secretary shall annu-  
2 ally submit, to the Committee on Education  
3 and Labor and the Committee on Appropria-  
4 tions of the House of Representatives, and to  
5 the Committee on Health, Education, Labor,  
6 and Pensions and the Committee on Appropria-  
7 tions of the Senate, a report on the results of  
8 the evaluation.

9           (C) LIMITATIONS.—

10           (i) IN GENERAL.—The Secretary shall  
11 ensure that the organization selected to  
12 carry out the independent evaluation under  
13 subparagraph (A) does not hold a contract  
14 or subcontract to implement any aspect of  
15 the program under this section.

16           (ii) SUBCONTRACTORS.—Any contract  
17 entered into under subparagraph (A) shall  
18 prohibit the organization conducting the  
19 evaluation from subcontracting with any  
20 entity that holds a contract or subcontract

1 for any aspect of the implementation of  
2 this section.

3 (iii) WAIVER.—Subject to clause (iv),  
4 the Secretary may waive the application of  
5 clause (i) or (ii), or both, in accordance  
6 with the requirements under section 9.503  
7 of title 48, Code of Federal Regulations, if  
8 the Secretary determines that their appli-  
9 cation in a particular situation would not  
10 be in the Federal Government's interest.

11 (iv) SPECIAL RULE REGARDING WAIV-  
12 ERS.—No organization or subcontractor  
13 under this paragraph shall receive a waiver  
14 that allows the organization or subcon-  
15 tractor to evaluate any aspect of the pro-  
16 gram under this section that the organiza-  
17 tion or subcontractor was involved in im-  
18 plementing.

19 (2) TECHNICAL ASSISTANCE.—

20 (A) IN GENERAL.—The Secretary may use  
21 funds made available under paragraph (3) to

1 provide technical assistance to prospective ap-  
2 plicants and to eligible local educational agen-  
3 cies receiving a grant under this section.

4 (B) CONFLICTS OF INTEREST.—If the Sec-  
5 retary carries out subparagraph (A) through  
6 any contracts, the Secretary, in consultation  
7 with the Office of the General Counsel of the  
8 Department, shall ensure that each contract re-  
9 quires the contractor to—

10 (i) screen for conflicts of interest  
11 when hiring individuals to carry out the re-  
12 sponsibilities under the contract;

13 (ii) include the requirement of clause  
14 (i) in any subcontracts the contractor en-  
15 ters into under the contract; and

16 (iii) establish and follow a schedule  
17 for carrying out clause (i) and subpara-  
18 graph (C) and reporting to the Secretary  
19 on the contractor's actions under those  
20 provisions.



1                   (C) SCREENING PROCESS.—Subject to sub-  
2                   paragraph (D), the screening process described  
3                   in subparagraph (B)(i) shall—

4                   (i) include, at a minimum, a review  
5                   of—

6                   (I) each individual performing  
7                   duties under the contract or sub-  
8                   contract for connections to any  
9                   State’s program under this section;

10                   (II) such individual’s potential fi-  
11                   nancial interests in, or other connec-  
12                   tion to, products, activities, or services  
13                   that might be purchased by a State  
14                   educational agency or local edu-  
15                   cational agency in the course of the  
16                   agency’s implementation of the pro-  
17                   gram under this section; and

18                   (III) such individual’s connec-  
19                   tions to teaching methodologies that  
20                   might require the use of specific prod-  
21                   ucts, activities, or services; and

1 (ii) ensure that individuals performing  
2 duties under the contract do not maintain  
3 significant financial interests in products,  
4 activities, or services supported under this  
5 section.

6 (D) WAIVER.—

7 (i) IN GENERAL.—The Secretary may,  
8 in consultation with the Office of the Gen-  
9 eral Counsel of the Department, waive the  
10 requirements of subparagraph (C).

11 (ii) REPORT.—The Secretary shall—

12 (I) establish criteria for the waiv-  
13 ers under clause (i); and

14 (II) report any waivers under  
15 clause (i), and the criteria under  
16 which such waivers are allowed, to the  
17 Committee on Education and Labor  
18 of the House of Representatives and  
19 the Committee on Health, Education,  
20 Labor, and Pensions of the Senate.

21 (E) INFORMATION DISSEMINATION.—

1 (i) IN GENERAL.—If the Secretary en-  
2 ters into contracts to provide technical as-  
3 sistance under subparagraph (A), and if a  
4 contractor enters into subcontracts for that  
5 purpose, each such contract and sub-  
6 contract shall require the provider of tech-  
7 nical assistance to clearly separate tech-  
8 nical assistance provided under the con-  
9 tract or subcontract from information pro-  
10 vided, or activities engaged in, as part of  
11 the normal operations of the contractor or  
12 subcontractor.

13 (ii) METHODS OF COMPLIANCE.—Ef-  
14 forts to comply with clause (i) may include  
15 the creation of separate webpages for the  
16 purpose of fulfilling a contract or sub-  
17 contract entered into under subparagraph  
18 (A).

19 (3) RESERVATION OF FUNDS.—The Secretary  
20 may reserve not more than 2.5 percent of funds ap-

1        appropriated under subsection (k) for a fiscal year to  
2        carry out this subsection.

3        (k) AUTHORIZATION OF APPROPRIATIONS.—There  
4        are authorized to be appropriated to carry out this section  
5        \$95,000,000 for fiscal year 2008, and such sums as may  
6        be necessary for each of the 2 succeeding fiscal years.

7        **SEC. 6202. SUMMER TERM EDUCATION PROGRAMS.**

8        (a) PURPOSE.—The purpose of this section is to cre-  
9        ate opportunities for summer learning by providing stu-  
10       dents with access to summer learning in mathematics,  
11       technology, and problem-solving to ensure that students  
12       do not experience learning losses over the summer and to  
13       remedy, reinforce, and accelerate the learning of mathe-  
14       matics and problem-solving.

15       (b) DEFINITIONS.—In this section:

16                (1) ELIGIBLE ENTITY.—The term “eligible enti-  
17       ty” means an entity that—

18                        (A) desires to participate in a summer  
19                        learning grant program under this section by  
20                        providing summer learning opportunities de-

1 scribed in subsection (d)(4)(A)(ii) to eligible  
2 students; and

3 (B) is—

4 (i) a high-need local educational agen-  
5 cy; or

6 (ii) a consortium consisting of a high-  
7 need local educational agency and 1 or  
8 more of the following entities:

9 (I) Another local educational  
10 agency.

11 (II) A community-based youth  
12 development organization with a dem-  
13 onstrated record of effectiveness in  
14 helping students learn.

15 (III) An institution of higher  
16 education.

17 (IV) An educational service agen-  
18 cy.

19 (V) A for-profit educational pro-  
20 vider, nonprofit organization, science  
21 center, museum, or summer enrich-

1                   ment camp, that has been approved  
2                   by the State educational agency to  
3                   provide the summer learning oppor-  
4                   tunity described in subsection  
5                   (d)(4)(A)(ii).

6                   (2) ELIGIBLE STUDENT.—The term “eligible  
7                   student” means a student who—

8                   (A) is eligible for a free lunch under the  
9                   Richard B. Russell National School Lunch Act  
10                  (42 U.S.C. 1751 et seq.); and

11                  (B) is served by a local educational agency  
12                  identified by the State educational agency in  
13                  the application described in subsection (c)(2).

14                  (3) HIGH-NEED LOCAL EDUCATIONAL AGEN-  
15                  CY.—The term “high-need local educational agency”  
16                  has the meaning given the term in section 6112.

17                  (c) DEMONSTRATION GRANT PROGRAM.—

18                  (1) PROGRAM AUTHORIZED.—

19                  (A) IN GENERAL.—From the funds appro-  
20                  priated under subsection (f) for a fiscal year,  
21                  the Secretary shall carry out a demonstration

1 grant program in which the Secretary awards  
2 grants, on a competitive basis, to State edu-  
3 cational agencies to enable the State edu-  
4 cational agencies to pay the Federal share of  
5 summer learning grants for eligible students.

6 (B) NUMBER OF GRANTS.—For each fiscal  
7 year, the Secretary shall award not more than  
8 5 grants under this section.

9 (2) APPLICATION.—A State educational agency  
10 that desires to receive a grant under this section  
11 shall submit an application to the Secretary at such  
12 time, in such manner, and accompanied by such in-  
13 formation as the Secretary may require. Such appli-  
14 cation shall identify the areas in the State where the  
15 summer learning grant program will be offered and  
16 the local educational agencies that serve such areas.

17 (3) AWARD BASIS.—

18 (A) SPECIAL CONSIDERATION.—In award-  
19 ing grants under this section, the Secretary  
20 shall give special consideration to a State edu-  
21 cational agency that agrees, to the extent pos-

1           sible, to enter into agreements with eligible en-  
2           tities that are consortia described in subsection  
3           (b)(1)(B)(ii) and that proposes to target serv-  
4           ices to children in grades kindergarten through  
5           grade 8.

6                   (B) GEOGRAPHIC DISTRIBUTION.—In  
7           awarding grants under this section, the Sec-  
8           retary shall take into consideration an equitable  
9           geographic distribution of the grants.

10       (d) SUMMER LEARNING GRANTS.—

11           (1) USE OF GRANTS FOR SUMMER LEARNING  
12       GRANTS.—

13                   (A) IN GENERAL.—Each State educational  
14           agency that receives a grant under subsection  
15           (c) for a fiscal year shall use the grant funds  
16           to provide summer learning grants for the fiscal  
17           year to eligible students in the State who desire  
18           to attend a summer learning opportunity of-  
19           fered by an eligible entity that enters into an  
20           agreement with the State educational agency  
21           under paragraph (4)(A).



1 (B) AMOUNT; FEDERAL AND NON-FED-  
2 ERAL SHARES.—

3 (i) AMOUNT.—The amount of a sum-  
4 mer learning grant provided under this  
5 section shall be—

6 (I) for each of the fiscal years  
7 2008 through 2011, \$1,600; and

8 (II) for fiscal year 2012, \$1,800.

9 (ii) FEDERAL SHARE.—The Federal  
10 share of each summer learning grant shall  
11 be not more than 50 percent of the amount  
12 of the summer learning grant determined  
13 under clause (i).

14 (iii) NON-FEDERAL SHARE.—The non-  
15 Federal share of each summer learning  
16 grant shall be not less than 50 percent of  
17 the amount of the summer learning grant  
18 determined under clause (i), and shall be  
19 provided from non-Federal sources.

20 (2) DESIGNATION OF SUMMER SCHOLARS.—Eli-  
21 gible students who receive summer learning grants

1 under this section shall be known as “summer schol-  
2 ars”.

3 (3) SELECTION OF SUMMER LEARNING OPPOR-  
4 TUNITY.—

5 (A) DISSEMINATION OF INFORMATION.—A  
6 State educational agency that receives a grant  
7 under subsection (c) shall disseminate informa-  
8 tion about summer learning opportunities and  
9 summer learning grants to the families of eligi-  
10 ble students in the State.

11 (B) APPLICATION.—The parents of an eli-  
12 gible student who are interested in having their  
13 child participate in a summer learning oppor-  
14 tunity and receive a summer learning grant  
15 shall submit an application to the State edu-  
16 cational agency that includes a ranked list of  
17 preferred summer learning opportunities.

18 (C) PROCESS.—A State educational agency  
19 that receives an application under subparagraph  
20 (B) shall—

21 (i) process such application;

1                   (ii) determine whether the eligible stu-  
2                   dent shall receive a summer learning  
3                   grant;

4                   (iii) coordinate the assignment of eli-  
5                   gible students receiving summer learning  
6                   grants with summer learning opportunities;  
7                   and

8                   (iv) if demand for a summer learning  
9                   opportunity exceeds capacity, the State  
10                  educational agency shall prioritize applica-  
11                  tions to low-achieving eligible students.

12                 (D) FLEXIBILITY.—A State educational  
13                 agency may assign a summer scholar to a sum-  
14                 mer learning opportunity program that is of-  
15                 fered in an area served by a local educational  
16                 agency that is not the local educational agency  
17                 serving the area where such scholar resides.

18                 (E) REQUIREMENT OF ACCEPTANCE.—An  
19                 eligible entity shall accept, enroll, and provide  
20                 the summer learning opportunity of such entity  
21                 to, any summer scholar assigned to such sum-

1 mer learning opportunity by a State educational  
2 agency pursuant to this subsection.

3 (4) AGREEMENT WITH ELIGIBLE ENTITY.—

4 (A) IN GENERAL.—A State educational  
5 agency shall enter into an agreement with one  
6 or more eligible entities offering a summer  
7 learning opportunity, under which—

8 (i) the State educational agency shall  
9 agree to make payments to the eligible en-  
10 tity, in accordance with subparagraph (B),  
11 for a summer scholar; and

12 (ii) the eligible entity shall agree to  
13 provide the summer scholar with a summer  
14 learning opportunity that—

15 (I) provides a total of not less  
16 than the equivalent of 30 full days of  
17 instruction (or not less than the  
18 equivalent of 25 full days of instruc-  
19 tion, if the equivalent of an additional  
20 5 days is devoted to field trips or

1 other enrichment opportunities) to the  
2 summer scholar;

3 (II) employs small-group, re-  
4 search-based educational programs,  
5 materials, curricula, and practices;

6 (III) provides a curriculum  
7 that—

8 (aa) emphasizes mathe-  
9 matics, technology, engineering,  
10 and problem-solving through ex-  
11 periential learning opportunities;

12 (bb) is primarily designed to  
13 increase the numeracy and prob-  
14 lem-solving skills of the summer  
15 scholar; and

16 (cc) is aligned with State  
17 academic content standards and  
18 goals of the local educational  
19 agency serving the summer schol-  
20 ar;

1 (IV) measures student progress  
2 to determine the gains made by sum-  
3 mer scholars in the summer learning  
4 opportunity, and disaggregates the re-  
5 sults of such progress for summer  
6 scholars by race and ethnicity, eco-  
7 nomic status, limited English pro-  
8 ficiency status, and disability status,  
9 in order to determine the oppor-  
10 tunity's impact on each subgroup of  
11 summer scholars;

12 (V) collects daily attendance data  
13 on each summer scholar;

14 (VI) provides professional devel-  
15 opment opportunities for teachers to  
16 improve their practice in teaching  
17 numeracy, and in integrating problem-  
18 solving techniques into the cur-  
19 riculum; and

20 (VII) meets all applicable Fed-  
21 eral, State, and local civil rights laws.

1 (B) AMOUNT OF PAYMENT.—

2 (i) IN GENERAL.—Except as provided  
3 in clause (ii), a State educational agency  
4 shall make a payment to an eligible entity  
5 for a summer scholar in the amount deter-  
6 mined under paragraph (1)(B)(i).

7 (ii) ADJUSTMENT.—In the case in  
8 which a summer scholar does not attend  
9 the full summer learning opportunity, the  
10 State educational agency shall reduce the  
11 amount provided to the eligible entity pur-  
12 suant to clause (i) by a percentage that is  
13 equal to the percentage of the summer  
14 learning opportunity not attended by such  
15 scholar.

16 (5) ADMINISTRATIVE COSTS.—A State edu-  
17 cational agency or eligible entity receiving funding  
18 under this section may use not more than 5 percent  
19 of such funding for administrative costs associated  
20 with carrying out this section.

21 (e) EVALUATIONS; REPORT; WEBSITE.—

1           (1) EVALUATION AND ASSESSMENT.—For each  
2           year that an eligible entity enters into an agreement  
3           under subsection (d)(4), the eligible entity shall pre-  
4           pare and submit to the Secretary a report on the ac-  
5           tivities and outcomes of each summer learning op-  
6           portunity that enrolled a summer scholar, includ-  
7           ing—

8                   (A) information on the design of the sum-  
9                   mer learning opportunity;

10                   (B) the alignment of the summer learning  
11                   opportunity with State standards; and

12                   (C) data from assessments of student  
13                   mathematics and problem-solving skills for the  
14                   summer scholars and on the attendance of the  
15                   scholars, disaggregated by the subgroups de-  
16                   scribed in subsection (d)(4)(A)(ii)(IV).

17           (2) REPORT.—For each year funds are appro-  
18           priated under subsection (f) for this section, the Sec-  
19           retary shall prepare and submit a report to the  
20           Committee on Health, Education, Labor, and Pen-  
21           sions of the Senate and the Committee on Education



1 and Labor of the House of Representatives on the  
2 summer learning grant programs, including the ef-  
3 fectiveness of the summer learning opportunities in  
4 improving student achievement and learning.

5 (3) SUMMER LEARNING GRANTS WEBSITE.—  
6 The Secretary shall make accessible, on the Depart-  
7 ment of Education website, information for parents  
8 and school personnel on successful programs and  
9 curricula, and best practices, for summer learning  
10 opportunities.

11 (f) AUTHORIZATION OF APPROPRIATIONS.—There  
12 are authorized to be appropriated to carry out this section  
13 such sums as may be necessary for fiscal year 2008 and  
14 each of the 2 succeeding fiscal years.

15 **SEC. 6203. MATH SKILLS FOR SECONDARY SCHOOL STU-**  
16 **DENTS.**

17 (a) PURPOSES.—The purposes of this section are—  
18 (1) to provide assistance to State educational  
19 agencies and local educational agencies in imple-  
20 menting effective research-based mathematics pro-  
21 grams for students in secondary schools, including

1 students with disabilities and students with limited  
2 English proficiency;

3 (2) to improve instruction in mathematics for  
4 students in secondary school through the implemen-  
5 tation of mathematics programs and the support of  
6 comprehensive mathematics initiatives that are  
7 based on the best available evidence of effectiveness;

8 (3) to provide targeted help to low-income stu-  
9 dents who are struggling with mathematics and  
10 whose achievement is significantly below grade level;  
11 and

12 (4) to provide in-service training for mathe-  
13 matics coaches who can assist secondary school  
14 teachers to utilize research-based mathematics in-  
15 struction to develop and improve students' mathe-  
16 matical abilities and knowledge, and assist teachers  
17 in assessing and improving student academic  
18 achievement.

19 (b) DEFINITIONS.—In this section:

20 (1) ELIGIBLE LOCAL EDUCATIONAL AGENCY.—  
21 The term “eligible local educational agency” means

1 a local educational agency that is eligible to receive  
2 funds, and that is receiving funds, under part A of  
3 title I of the Elementary and Secondary Education  
4 Act of 1965 (20 U.S.C. 6311 et seq.).

5 (2) MATHEMATICS COACH.—The term “mathe-  
6 matics coach” means a certified or licensed teacher,  
7 with a demonstrated effectiveness in teaching mathe-  
8 matics to students with specialized needs in mathe-  
9 matics and improving student academic achievement  
10 in mathematics, a command of mathematical content  
11 knowledge, and the ability to work with classroom  
12 teachers to improve the teachers’ instructional tech-  
13 niques to support mathematics improvement, who  
14 works on site at a school—

15 (A) to train teachers to better assess stu-  
16 dent learning in mathematics;

17 (B) to train teachers to assess students’  
18 mathematics skills and identify students who  
19 need remediation; and

20 (C) to provide or assess remedial mathe-  
21 matics instruction, including for—

- 1 (i) students in after-school and sum-  
2 mer school programs;  
3 (ii) students requiring additional in-  
4 struction;  
5 (iii) students with disabilities; and  
6 (iv) students with limited English pro-  
7 ficiency.

8 (c) PROGRAM AUTHORIZED.—

9 (1) IN GENERAL.—From funds appropriated  
10 under subsection (o) for a fiscal year, the Secretary  
11 shall establish a program, in accordance with the re-  
12 quirements of this section, that will provide grants  
13 on a competitive basis to State educational agencies  
14 to award grants and subgrants to eligible local edu-  
15 cational agencies for the purpose of establishing  
16 mathematics programs to improve the overall mathe-  
17 matics performance of secondary school students in  
18 the State.

19 (2) LENGTH OF GRANT.—A grant to a State  
20 educational agency under this section shall be  
21 awarded for a period of 3 years.

1 (d) RESERVATION OF FUNDS BY THE SECRETARY.—  
2 From amounts appropriated under subsection (o) for a fis-  
3 cal year, the Secretary may reserve—

4 (1) not more than 3 percent of such amounts  
5 to fund national activities in support of the pro-  
6 grams assisted under this section, such as research  
7 and dissemination of best practices, except that the  
8 Secretary may not use the reserved funds to award  
9 grants directly to local educational agencies; and

10 (2) not more than  $\frac{1}{2}$  of 1 percent of such  
11 amounts for the Bureau of Indian Education of the  
12 Department of the Interior to carry out the services  
13 and activities described in subsection (k)(3) for In-  
14 dian children.

15 (e) GRANT FORMULAS.—

16 (1) COMPETITIVE GRANTS TO STATE EDU-  
17 CATIONAL AGENCIES.—From amounts appropriated  
18 under subsection (o) and not reserved under sub-  
19 section (d), the Secretary shall award grants, on a  
20 competitive basis, to State educational agencies to  
21 enable the State educational agencies to provide sub-

1 grants to eligible local educational agencies to estab-  
2 lish mathematics programs for the purpose of im-  
3 proving overall mathematics performance among stu-  
4 dents in secondary school in the State.

5 (2) MINIMUM GRANT.—The Secretary shall en-  
6 sure that the minimum grant made to any State  
7 educational agency under this section shall be not  
8 less than \$500,000.

9 (f) APPLICATIONS.—In order to receive a grant under  
10 this section, a State educational agency shall submit an  
11 application to the Secretary at such time, in such manner,  
12 and accompanied by such information as the Secretary  
13 may require. Each such application shall meet the fol-  
14 lowing conditions:

15 (1) A State educational agency shall not include  
16 the application for assistance under this section in a  
17 consolidated application submitted under section  
18 9302 of the Elementary and Secondary Education  
19 Act of 1965 (20 U.S.C. 7842).

20 (2) The State educational agency's application  
21 shall include assurances that such application and

1 any technical assistance provided by the State will  
2 be guided by a peer review team, which shall consist  
3 of—

4 (A) researchers with expertise in the peda-  
5 gogy of mathematics;

6 (B) mathematicians; and

7 (C) mathematics educators serving high-  
8 risk, high-achievement schools and eligible local  
9 educational agencies.

10 (3) The State educational agency shall include  
11 an assurance that the State has a process to safe-  
12 guard against conflicts of interest consistent with  
13 subsection (m)(2) and section 6204 for individuals  
14 providing technical assistance on behalf of the State  
15 educational agency or participating in the State peer  
16 review process under this subtitle.

17 (4) The State educational agency will partici-  
18 pate, if requested, in any evaluation of the State  
19 educational agency's program under this section.

1           (5) The State educational agency's application  
2 shall include a program plan that contains a descrip-  
3 tion of the following:

4           (A) How the State educational agency will  
5 assist eligible local educational agencies in im-  
6 plementing subgrants, including providing ongo-  
7 ing professional development for mathematics  
8 coaches, teachers, paraprofessionals, and ad-  
9 ministrators.

10          (B) How the State educational agency will  
11 help eligible local educational agencies identify  
12 high-quality screening, diagnostic, and class-  
13 room-based instructional mathematics assess-  
14 ments.

15          (C) How the State educational agency will  
16 help eligible local educational agencies identify  
17 high-quality research-based mathematics mate-  
18 rials and programs.

19          (D) How the State educational agency will  
20 help eligible local educational agencies identify  
21 appropriate and effective materials, programs,



1           and assessments for students with disabilities  
2           and students with limited English proficiency.

3           (E) How the State educational agency will  
4           ensure that professional development funded  
5           under this section—

6                   (i) is based on mathematics research;

7                   (ii) will effectively improve instruc-  
8                   tional practices for mathematics for sec-  
9                   ondary school students;

10                  (iii) will improve student academic  
11                  achievement in mathematics; and

12                  (iv) is coordinated with professional  
13                  development activities funded through  
14                  other programs, including section 2113 of  
15                  the Elementary and Secondary Education  
16                  Act of 1965 (20 U.S.C. 6613).

17           (F) How funded activities will help teach-  
18           ers and other instructional staff to implement  
19           research-based components of mathematics in-  
20           struction and improve student academic  
21           achievement.

1           (G) The subgrant process the State edu-  
2           cational agency will use to ensure that eligible  
3           local educational agencies receiving subgrants  
4           implement programs and practices based on  
5           mathematics research.

6           (H) How the State educational agency will  
7           build on and promote coordination among  
8           mathematics programs in the State to increase  
9           overall effectiveness in improving mathematics  
10          instruction and student academic achievement,  
11          including for students with disabilities and stu-  
12          dents with limited English proficiency.

13          (I) How the State educational agency will  
14          regularly assess and evaluate the effectiveness  
15          of the eligible local educational agency activities  
16          funded under this section.

17          (g) STATE USE OF FUNDS.—Each State educational  
18          agency receiving a grant under this section shall—

19               (1) establish a peer review team comprised of  
20          researchers with expertise in the pedagogy of mathe-  
21          matics, mathematicians, and mathematics educators

1 from high-risk, high-achievement schools, to provide  
2 guidance to eligible local educational agencies in se-  
3 lecting or developing and implementing appropriate,  
4 research-based mathematics programs for secondary  
5 school students;

6 (2) use 80 percent of the grant funds received  
7 under this section for a fiscal year to fund high-  
8 quality applications for subgrants to eligible local  
9 educational agencies having applications approved  
10 under subsection (k); and

11 (3) use 20 percent of the grant funds received  
12 under this section—

13 (A) to carry out State-level activities de-  
14 scribed in the application submitted under sub-  
15 section (f);

16 (B) to provide—

17 (i) technical assistance to eligible local  
18 educational agencies; and

19 (ii) high-quality professional develop-  
20 ment to teachers and mathematics coaches  
21 in the State;

1           (C) to oversee and evaluate subgrant serv-  
2           ices and activities undertaken by the eligible  
3           local educational agencies as described in sub-  
4           section (k)(3); and

5           (D) for administrative costs, of which not  
6           more than 5 percent of the grant funds may be  
7           used for planning, administration, and report-  
8           ing.

9           (h) NOTICE TO ELIGIBLE LOCAL EDUCATIONAL  
10          AGENCIES.—Each State educational agency receiving a  
11          grant under this section shall provide notice to all eligible  
12          local educational agencies in the State about the avail-  
13          ability of subgrants under this section.

14          (i) PROHIBITIONS.—

15                 (1) IN GENERAL.—In implementing this sec-  
16          tion, the Secretary shall not—

17                         (A) endorse, approve, or sanction any  
18                         mathematics curriculum designed for use in any  
19                         school; or

20                         (B) engage in oversight, technical assist-  
21                         ance, or activities that will require the adoption

1           of a specific mathematics program or instruc-  
2           tional materials by a State, local educational  
3           agency, or school.

4           (2) RULE OF CONSTRUCTION.—Nothing in this  
5           section shall be construed to authorize or permit the  
6           Secretary, Department of Education, or a Depart-  
7           ment of Education contractor, to mandate, direct,  
8           control, or suggest the selection of a mathematics  
9           curriculum, supplemental instructional materials, or  
10          program of instruction by a State, local educational  
11          agency, or school.

12          (j) SUPPLEMENT NOT SUPPLANT.—Each State edu-  
13          cational agency receiving a grant under this section shall  
14          use the grant funds to supplement, not supplant, State  
15          funding for activities authorized under this section or for  
16          other educational activities.

17          (k) SUBGRANTS TO ELIGIBLE LOCAL EDUCATIONAL  
18          AGENCIES.—

19                 (1) APPLICATION.—

20                         (A) IN GENERAL.—Each eligible local edu-  
21                         cational agency desiring a subgrant under this

1 subsection shall submit an application to the  
2 State educational agency in the form and ac-  
3 cording to the schedule established by the State  
4 educational agency.

5 (B) CONTENTS.—In addition to any infor-  
6 mation required by the State educational agen-  
7 cy, each application under subparagraph (A)  
8 shall demonstrate how the eligible local edu-  
9 cational agency will carry out the following re-  
10 quired activities:

11 (i) Development or selection and im-  
12 plementation of research-based mathe-  
13 matics assessments.

14 (ii) Development or selection and im-  
15 plementation of research-based mathe-  
16 matics programs, including programs for  
17 students with disabilities and students with  
18 limited English proficiency.

19 (iii) Selection of instructional mate-  
20 rials based on mathematics research.

1 (iv) High-quality professional develop-  
2 ment for mathematics coaches and teach-  
3 ers based on mathematics research.

4 (v) Evaluation and assessment strate-  
5 gies.

6 (vi) Reporting.

7 (vii) Providing access to research-  
8 based mathematics materials.

9 (C) CONSORTIA.—Consistent with State  
10 law, an eligible local educational agency may  
11 apply to the State educational agency for a  
12 subgrant as a member of a consortium of local  
13 educational agencies if each member of the con-  
14 sortium is an eligible local educational agency.

15 (2) AWARD BASIS.—

16 (A) PRIORITY.—A State educational agen-  
17 cy awarding subgrants under this subsection  
18 shall give priority to eligible local educational  
19 agencies that—

20 (i) are among the local educational  
21 agencies in the State with the lowest grad-

1           uation rates, as described in section  
2           1111(b)(2)(C)(vi) of the Elementary and  
3           Secondary Education Act of 1965 (20  
4           U.S.C. 6311(b)(2)(C)(vi)); and

5           (ii) have the highest number or per-  
6           centage of students who are counted under  
7           section 1124(e) of the Elementary and  
8           Secondary Education Act of 1965 (20  
9           U.S.C. 6333(e)).

10          (B) AMOUNT OF GRANTS.—Subgrants  
11          under this subsection shall be of sufficient size  
12          and scope to enable eligible local educational  
13          agencies to fully implement activities assisted  
14          under this subsection.

15          (3) LOCAL USE OF FUNDS.—Each eligible local  
16          educational agency receiving a subgrant under this  
17          subsection shall use the subgrant funds to carry out,  
18          at the secondary school level, the following services  
19          and activities:



- 1           (A) Hiring mathematics coaches and pro-  
2           viding professional development for mathe-  
3           matics coaches—
- 4           (i) at a level to provide effective  
5           coaching to classroom teachers;
- 6           (ii) to work with classroom teachers to  
7           better assess student academic achieve-  
8           ment in mathematics;
- 9           (iii) to work with classroom teachers  
10          to identify students with mathematics  
11          problems and, where appropriate, refer  
12          students to available programs for remedi-  
13          ation and additional services;
- 14          (iv) to work with classroom teachers  
15          to diagnose and remediate mathematics  
16          difficulties of the lowest-performing stu-  
17          dents, so that those teachers can provide  
18          intensive, research-based instruction, in-  
19          cluding during after-school and summer  
20          sessions, geared toward ensuring that

1           those students can access and be successful  
2           in rigorous academic coursework; and

3                   (v) to assess and organize student  
4           data on mathematics and communicate  
5           that data to school administrators to in-  
6           form school reform efforts.

7           (B) Reviewing, analyzing, developing, and,  
8           where possible, adapting curricula to make sure  
9           mathematics skills are taught within other core  
10          academic subjects.

11          (C) Providing mathematics professional de-  
12          velopment for all relevant teachers in secondary  
13          school, as necessary, that addresses both reme-  
14          dial and higher level mathematics skills for stu-  
15          dents in the applicable curriculum.

16          (D) Providing professional development for  
17          teachers, administrators, and paraprofessionals  
18          serving secondary schools to help the teachers,  
19          administrators, and paraprofessionals improve  
20          student academic achievement in mathematics.

1           (E) Procuring and implementing programs  
2           and instructional materials based on mathe-  
3           matics research, including software and other  
4           education technology related to mathematics in-  
5           struction with demonstrated effectiveness in im-  
6           proving mathematics instruction and student  
7           academic achievement.

8           (F) Building on and promoting coordina-  
9           tion among mathematics programs in the eligi-  
10          ble local educational agency to increase overall  
11          effectiveness in—

12                 (i) improving mathematics instruction;  
13                 and

14                 (ii) increasing student academic  
15                 achievement, including for students with  
16                 disabilities and students with limited  
17                 English proficiency.

18          (G) Evaluating the effectiveness of the in-  
19          structional strategies, teacher professional de-  
20          velopment programs, and other interventions  
21          that are implemented under the subgrant.

1                   (H) Measuring improvement in student  
2                   academic achievement, including through  
3                   progress monitoring or other assessments.

4                   (4) SUPPLEMENT NOT SUPPLANT.—Each eligi-  
5                   ble local educational agency receiving a subgrant  
6                   under this subsection shall use the subgrant funds  
7                   to supplement, not supplant, the eligible local edu-  
8                   cational agency’s funding for activities authorized  
9                   under this section or for other educational activities.

10                  (5) NEW SERVICES AND ACTIVITIES.—Subgrant  
11                  funds provided under this subsection may be used  
12                  only to provide services and activities authorized  
13                  under this section that were not provided on the day  
14                  before the date of enactment of this Act.

15                  (6) EVALUATIONS.—Each eligible local edu-  
16                  cational agency receiving a grant under this sub-  
17                  section shall participate, as requested by the State  
18                  educational agency or the Secretary, in reviews and  
19                  evaluations of the programs of the eligible local edu-  
20                  cational agency and the effectiveness of such pro-  
21                  grams, and shall provide such reports as are re-

1 requested by the State educational agency and the  
2 Secretary.

3 (1) MATCHING REQUIREMENTS.—

4 (1) STATE EDUCATIONAL AGENCY REQUIRE-  
5 MENTS.—A State educational agency that receives a  
6 grant under this section shall provide, from non-  
7 Federal sources, an amount equal to 50 percent of  
8 the amount of the grant, in cash or in-kind, to carry  
9 out the activities supported by the grant, of which  
10 not more than 20 percent of such 50 percent may  
11 be provided by local educational agencies within the  
12 State.

13 (2) WAIVER.—The Secretary may waive all or  
14 a portion of the matching requirements described in  
15 paragraph (1) for any fiscal year, if the Secretary  
16 determines that—

17 (A) the application of the matching re-  
18 quirement will result in serious hardship for the  
19 State educational agency; or

20 (B) providing a waiver best serves the pur-  
21 pose of the program assisted under this section.

1 (m) EVALUATION AND TECHNICAL ASSISTANCE.—

2 (1) EVALUATION.—

3 (A) IN GENERAL.—The Secretary shall  
4 conduct an annual independent evaluation, by  
5 grant or by contract, of the program assisted  
6 under this section, which shall include an as-  
7 sessment of the impact of the program on stu-  
8 dent academic achievement and teacher per-  
9 formance, and may use funds available to carry  
10 out this section to conduct the evaluation.

11 (B) REPORT.—The Secretary shall annu-  
12 ally submit to the Committee on Education and  
13 Labor and the Committee on Appropriations of  
14 the House of Representatives, and to the Com-  
15 mittee on Health, Education, Labor, and Pen-  
16 sions and the Committee on Appropriations of  
17 the Senate, a report on the results of the eval-  
18 uation.

19 (C) LIMITATIONS.—

20 (i) IN GENERAL.—The Secretary shall  
21 ensure that the organization selected to

1 carry out the independent evaluation under  
2 subparagraph (A) does not hold a contract  
3 or subcontract to implement any aspect of  
4 the program under this section.

5 (ii) SUBCONTRACTORS.—Any contract  
6 entered into under subparagraph (A) shall  
7 prohibit the organization conducting the  
8 evaluation from subcontracting with any  
9 entity that holds a contract or subcontract  
10 for any aspect of the implementation of  
11 this section.

12 (iii) WAIVER.—Subject to clause (iv),  
13 the Secretary may waive the application of  
14 clause (i) or (ii), or both, in accordance  
15 with the requirements under section 9.503  
16 of title 48, Code of Federal Regulations, if  
17 the Secretary determines that their appli-  
18 cation in a particular situation would not  
19 be in the Federal Government's interest.

20 (iv) SPECIAL RULE REGARDING WAIV-  
21 ERS.—No organization or subcontractor

1           under this paragraph shall receive a waiver  
2           that allows the organization or subcon-  
3           tractor to evaluate any aspect of the pro-  
4           gram under this section that the organiza-  
5           tion or subcontractor was involved in im-  
6           plementing.

7           (2) TECHNICAL ASSISTANCE.—

8           (A) IN GENERAL.—The Secretary may use  
9           funds made available under paragraph (3) to  
10          provide technical assistance to prospective ap-  
11          plicants and to State educational agencies and  
12          eligible local educational agencies receiving  
13          grants or subgrants under this section.

14          (B) CONFLICTS OF INTEREST.—If the Sec-  
15          retary carries out subparagraph (A) through  
16          any contracts, the Secretary, in consultation  
17          with the Office of the General Counsel of the  
18          Department, shall ensure that each contract re-  
19          quires the contractor to—



1 (i) screen for conflicts of interest  
2 when hiring individuals to carry out the re-  
3 sponsibilities under the contract;

4 (ii) include the requirement of clause  
5 (i) in any subcontracts the contractor en-  
6 ters into under the contract; and

7 (iii) establish and follow a schedule  
8 for carrying out clause (i) and subpara-  
9 graph (C) and reporting to the Secretary  
10 on the contractor's actions under those  
11 provisions.

12 (C) SCREENING PROCESS.—Subject to sub-  
13 paragraph (D), the screening process described  
14 in subparagraph (B)(i) shall—

15 (i) include, at a minimum, a review  
16 of—

17 (I) each individual performing  
18 duties under the contract or sub-  
19 contract for connections to any  
20 State's program under this section;

1                   (II) such individual’s potential fi-  
2                   nancial interests in, or other connec-  
3                   tion to, products, activities, or services  
4                   that might be purchased by a State  
5                   educational agency or local edu-  
6                   cational agency in the course of the  
7                   agency’s implementation of the pro-  
8                   gram under this section; and

9                   (III) such individual’s connec-  
10                  tions to teaching methodologies that  
11                  might require the use of specific prod-  
12                  ucts, activities, or services; and

13                  (ii) ensure that individuals performing  
14                  duties under the contract do not maintain  
15                  significant financial interests in products,  
16                  activities, or services supported under this  
17                  section.

18                  (D) WAIVER.—

19                  (i) IN GENERAL.—The Secretary may,  
20                  in consultation with the Office of the Gen-

1           eral Counsel of the Department, waive the  
2           requirements of subparagraph (C).

3           (ii) REPORT.—The Secretary shall—

4                   (I) establish criteria for the waiv-  
5                   ers under clause (i); and

6                   (II) report any waivers under  
7                   clause (i), and the criteria under  
8                   which such waivers are allowed, to the  
9                   Committee on Education and Labor  
10                  of the House of Representatives and  
11                  the Committee on Health, Education,  
12                  Labor, and Pensions of the Senate.

13          (E) INFORMATION DISSEMINATION.—

14           (i) IN GENERAL.—If the Secretary en-  
15           ters into contracts to provide technical as-  
16           sistance under subparagraph (A), and if a  
17           contractor enters into subcontracts for that  
18           purpose, each such contract and sub-  
19           contract shall require the provider of tech-  
20           nical assistance to clearly separate tech-  
21           nical assistance provided under the con-

1           tract or subcontract from information pro-  
2           vided, or activities engaged in, as part of  
3           the normal operations of the contractor or  
4           subcontractor.

5                   (ii) METHODS OF COMPLIANCE.—Ef-  
6           forts to comply with clause (i) may include  
7           the creation of separate webpages for the  
8           purpose of fulfilling a contract or sub-  
9           contract entered into under subparagraph  
10          (A).

11                   (3) RESERVATION OF FUNDS.—The Secretary  
12          may reserve not more than 2.5 percent of funds ap-  
13          propriated under subsection (o) for a fiscal year to  
14          carry out this subsection.

15                   (n) PROGRAM PERFORMANCE AND ACCOUNT-  
16          ABILITY.—

17                   (1) INFORMATION.—Each State educational  
18          agency receiving a grant under this section shall col-  
19          lect and report to the Secretary annually such infor-  
20          mation on the results of the grant as the Secretary  
21          may reasonably require, including information on—

1           (A) mathematics achievement data that  
2           show the progress of students participating in  
3           projects under this section (including, to the ex-  
4           tent practicable, comparable data from students  
5           not participating in such projects), based pri-  
6           marily on the results of State, school district-  
7           wide, or classroom-based monitoring reports or  
8           assessments, including—

9                   (i) specific identification of those  
10                  schools and eligible local educational agen-  
11                  cies that report the largest gains in mathe-  
12                  matics achievement; and

13                  (ii) evidence on whether the State  
14                  educational agency and eligible local edu-  
15                  cational agencies within the State have—

16                   (I) significantly increased the  
17                   number of students achieving at the  
18                   proficient or advanced level on the  
19                   State student academic achievement  
20                   standards in mathematics under sec-  
21                   tion 1111(b)(1)(D)(ii) of the Elemen-

1 tary and Secondary Education Act of  
2 1965 (20 U.S.C. 6311(b)(1)(D)(ii));

3 (II) significantly increased the  
4 percentages of students described in  
5 section 1111(b)(2)(C)(v)(II) of the El-  
6 elementary and Secondary Education  
7 Act of 1965 (20 U.S.C.  
8 6311(b)(2)(C)(v)(II)) who are achiev-  
9 ing proficiency or advanced levels on  
10 such State academic content stand-  
11 ards in mathematics;

12 (III) significantly increased the  
13 number of students making significant  
14 progress toward meeting such State  
15 academic content and achievement  
16 standards in mathematics; and

17 (IV) successfully implemented  
18 this section;

19 (B) the percentage of students in the  
20 schools served by the eligible local educational  
21 agency who enroll in advanced mathematics

1 courses in grades 9 through 12, including the  
2 percentage of such students who pass such  
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

1           1111(h)(1)(C)(i) of the Elementary and Sec-  
2           ondary Education Act of 1965 (20 U.S.C.  
3           6311(h)(1)(C)(i)).

4           (o) AUTHORIZATION OF APPROPRIATIONS.—There  
5 are authorized to be appropriated to carry out this section  
6 \$95,000,000 for fiscal year 2008 and each of the 2 suc-  
7 ceeding fiscal years.

8 **SEC. 6204. PEER REVIEW OF STATE APPLICATIONS.**

9           (a) PEER REVIEW OF STATE APPLICATIONS.—The  
10 Secretary shall establish peer review panels to review State  
11 educational agency applications submitted pursuant to  
12 sections 6201 and 6203 and shall consider the rec-  
13 ommendation of the peer review panels in deciding wheth-  
14 er to approve the applications.

15           (b) SCREENING.—

16           (1) IN GENERAL.—The Secretary shall establish  
17 a process through which individuals on the peer re-  
18 view panels who review State applications under sec-  
19 tions 6201 and 6203 (referred to in this section as  
20 “reviewers”) are screened for potential conflicts of  
21 interest.





1 use of specific products, activities, or serv-  
2 ices; and

3 (C) ensure that reviewers do not maintain  
4 significant financial interests in products, ac-  
5 tivities, or services supported under such sec-  
6 tions.

7 (3) WAIVER.—

8 (A) IN GENERAL.—The Secretary may, in  
9 consultation with the Office of the General  
10 Counsel of the Department, waive the require-  
11 ments of paragraph (2)(C).

12 (B) REPORT OF WAIVERS.—The Secretary  
13 shall—

14 (i) establish criteria for the waivers  
15 permitted under subparagraph (A); and

16 (ii) report any waivers allowed under  
17 subparagraph (A), and the criteria under  
18 which such waivers are allowed, to the  
19 Committee on Education and Labor of the  
20 House of Representatives and the Com-

1                   mittee on Health, Education, Labor, and  
2                   Pensions of the Senate.

3       (c) GUIDANCE.—

4           (1) IN GENERAL.—The Secretary shall develop  
5       procedures for, and issue guidance regarding, how  
6       reviewers will review applications submitted under  
7       sections 6201 and 6203 and provide feedback to  
8       State educational agencies and recommendations to  
9       the Secretary. The Secretary shall also develop guid-  
10      ance for how the Secretary will review those rec-  
11      ommendations and make final determinations of ap-  
12      proval or disapproval of those applications.

13          (2) REQUIREMENTS.—Such procedures shall, at  
14      a minimum—

15           (A) create a transparent process through  
16      which review panels provide clear, consistent,  
17      and publicly available documentation and expla-  
18      nations in support of all recommendations, in-  
19      cluding the final reviews of the individual re-  
20      viewers, except that a final review shall not re-

1           veal any personally identifiable information  
2           about the reviewer;

3                   (B) ensure that a State educational agency  
4           has the opportunity for direct interaction with  
5           any review panel that reviewed the agency's ap-  
6           plication under section 6201 or 6203 when re-  
7           vising that application as a result of feedback  
8           from the panel, including the disclosure of the  
9           identities of the reviewers;

10                   (C) require that any review panel and the  
11           Secretary clearly and consistently document  
12           that all required elements of an application  
13           under section 6201 or 6203 are included before  
14           the application is approved; and

15                   (D) create a transparent process through  
16           which the Secretary clearly, consistently, and  
17           publicly documents decisions to approve or dis-  
18           approve applications under such sections and  
19           the reasons for those decisions.

1           **Subtitle C—Foreign Language**  
2                           **Partnership Program**

3   **SEC. 6301. FINDINGS AND PURPOSE.**

4           (a) FINDINGS.—Congress makes the following find-  
5 ings:

6                   (1) The United States faces a shortage of  
7 skilled professionals with higher levels of proficiency  
8 in foreign languages and area knowledge critical to  
9 the Nation’s security.

10                   (2) Given the Nation’s economic competitive-  
11 ness interests, it is crucial that our Nation expand  
12 the number of Americans who are able to function  
13 effectively in the environments in which critical for-  
14 eign languages are spoken.

15                   (3) Students’ ability to become proficient in for-  
16 eign languages can be addressed by starting lan-  
17 guage learning at a younger age and expanding op-  
18 portunities for continuous foreign language edu-  
19 cation from elementary school through postsec-  
20 ondary education.

1 (b) PURPOSE.—The purpose of this subtitle is to sig-  
2 nificantly increase—

3 (1) the opportunities to study critical foreign  
4 languages and the context in which the critical for-  
5 eign languages are spoken; and

6 (2) the number of American students who  
7 achieve the highest level of proficiency in critical for-  
8 eign languages.

9 **SEC. 6302. DEFINITIONS.**

10 In this subtitle:

11 (1) ELIGIBLE RECIPIENT.—The term “eligible  
12 recipient” means an entity mutually agreed upon by  
13 a partnership that shall receive grant funds under  
14 this subtitle on behalf of the partnership for use in  
15 carrying out the activities assisted under this sub-  
16 title.

17 (2) PARTNERSHIP.—The term “partnership”  
18 means a partnership that—

19 (A) shall include—

20 (i) an institution of higher education;

21 and

1 (ii) 1 or more local educational agen-  
2 cies; and

3 (B) may include 1 or more entities that  
4 support the purposes of this subtitle.

5 (3) SUPERIOR LEVEL OF PROFICIENCY.—The  
6 term “superior level of proficiency” means level 3,  
7 the professional working level, as measured by the  
8 Federal Interagency Language Roundtable (ILR) or  
9 by other generally recognized measures of superior  
10 standards.

11 **SEC. 6303. PROGRAM AUTHORIZED.**

12 (a) PROGRAM AUTHORIZED.—

13 (1) IN GENERAL.—The Secretary is authorized  
14 to award grants to eligible recipients to enable part-  
15 nerships served by the eligible recipients to establish  
16 articulated programs of study in critical foreign lan-  
17 guages that will enable students to advance success-  
18 fully from elementary school through postsecondary  
19 education and achieve higher levels of proficiency in  
20 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, of which 2 years may be for planning and de-  
4           velopment. A grant may be renewed for not more  
5           than 2 additional 5-year periods, if the Secretary de-  
6           termines that the partnership’s program is effective  
7           and the renewal will best serve the purposes of this  
8           subtitle.

9           (b) APPLICATIONS.—

10           (1) IN GENERAL.—Each eligible recipient desir-  
11           ing a grant under this section shall submit an appli-  
12           cation to the Secretary at such time, in such man-  
13           ner, and containing such information as the Sec-  
14           retary may require.

15           (2) CONTENTS.—Each application shall—

16           (A) identify each local educational agency  
17           partner, including contact information and let-  
18           ters of commitment, and describe the respon-  
19           sibilities of each member of the partnership, in-  
20           cluding—



- 1 (i) how each of the partners will be in-  
2 volved in planning, developing, and imple-  
3 menting—
- 4 (I) program curriculum and ma-  
5 terials; and
- 6 (II) teacher professional develop-  
7 ment;
- 8 (ii) what resources each of the part-  
9 ners will provide; and
- 10 (iii) how the partners will contribute  
11 to ensuring the continuity of student  
12 progress from elementary school through  
13 the postsecondary level;
- 14 (B) describe how an articulated curriculum  
15 for students will be developed and implemented,  
16 which may include the use and integration of  
17 technology into such curriculum;
- 18 (C) identify target proficiency levels for  
19 students at critical benchmarks (such as grades  
20 4, 8, and 12), and describe how progress to-  
21 ward those proficiency levels will be assessed at

1 the benchmarks, and how the program will use  
2 the results of the assessments to ensure contin-  
3 uous progress toward achieving a superior level  
4 of proficiency at the postsecondary level;

5 (D) describe how the partnership will—

6 (i) ensure that students from a pro-  
7 gram assisted under this subtitle who are  
8 beginning postsecondary education will be  
9 assessed and enabled to progress to a su-  
10 perior level of proficiency;

11 (ii) address the needs of students al-  
12 ready at, or near, the superior level of pro-  
13 ficiency, which may include diagnostic as-  
14 sessments for placement purposes, cus-  
15 tomized and individualized language learn-  
16 ing opportunities, and experimental and  
17 interdisciplinary language learning; and

18 (iii) identify and describe how the  
19 partnership will work with institutions of  
20 higher education outside the partnership to  
21 provide participating students with mul-

1           title options for postsecondary education  
2           consistent with the purposes of this sub-  
3           title;

4           (E) describe how the partnership will sup-  
5           port and continue the program after the grant  
6           has expired, including how the partnership will  
7           seek support from other sources, such as State  
8           and local governments, foundations, and the  
9           private sector; and

10          (F) describe what assessments will be used  
11          or, if assessments not available, how assess-  
12          ments will be developed.

13          (c) USES OF FUNDS.—Grant funds awarded under  
14          this subtitle—

15                 (1) shall be used to plan, develop, and imple-  
16                 ment programs at the elementary school level  
17                 through postsecondary education, consistent with the  
18                 purpose of this subtitle, including—

19                         (A) the development of curriculum and in-  
20                         structional materials; and

21                         (B) recruitment of students; and

1 (2) may be used for—

2 (A) teacher recruitment (including recruit-  
3 ment from other professions and recruitment of  
4 native-language speakers in the community)  
5 and professional development directly related to  
6 the purposes of this subtitle at the elementary  
7 school through secondary school levels;

8 (B) development of appropriate assess-  
9 ments;

10 (C) opportunities for maximum language  
11 exposure for students in the program, such as  
12 the creation of immersion environments (such  
13 as language houses, language tables, immersion  
14 classrooms, and weekend and summer experi-  
15 ences) and special tutoring and academic sup-  
16 port;

17 (D) dual language immersion programs;

18 (E) scholarships and study-abroad oppor-  
19 tunities, related to the program, for postsec-  
20 ondary students and newly recruited teachers  
21 who have advanced levels of proficiency in a

1 critical foreign language, except that not more  
2 than 20 percent of the grant funds provided to  
3 an eligible recipient under this section for a fis-  
4 cal year may be used to carry out this subpara-  
5 graph;

6 (F) activities to encourage community in-  
7 volvement to assist in meeting the purposes of  
8 this subtitle;

9 (G) summer institutes for students and  
10 teachers;

11 (H) bridge programs that allow dual en-  
12 rollment for secondary school students in insti-  
13 tutions of higher education;

14 (I) programs that expand the under-  
15 standing and knowledge of historic, geographic,  
16 and contextual factors within countries with  
17 populations who speak critical foreign lan-  
18 guages, if such programs are carried out in con-  
19 junction with language instruction;

20 (J) research on, and evaluation of, the  
21 teaching of critical foreign languages;

1                   (K) data collection and analysis regarding  
2                   the results of—

3                   (i) various student recruitment strate-  
4                   gies;

5                   (ii) program design; and

6                   (iii) curricular approaches;

7                   (L) the impact of the strategies, program  
8                   design, and curricular approaches described in  
9                   subparagraph (K) on increasing—

10                   (i) the number of students studying  
11                   critical foreign languages; and

12                   (ii) the proficiency of the students in  
13                   the critical foreign languages; and

14                   (M) distance learning projects for critical  
15                   foreign language learning.

16                   (d) MATCHING REQUIREMENT.—

17                   (1) IN GENERAL.—An eligible recipient that re-  
18                   ceives a grant under this subtitle shall provide, to-  
19                   ward the cost of carrying out the activities sup-  
20                   ported by the grant, from non-Federal sources, an  
21                   amount equal to—

1           (A) 20 percent of the amount of the grant  
2           payment for the first fiscal year for which a  
3           grant payment is made;

4           (B) 30 percent of the amount of the grant  
5           payment for the second such fiscal year;

6           (C) 40 percent of the amount of the grant  
7           payment for the third such fiscal year; and

8           (D) 50 percent of the amount of the grant  
9           payment for each of the fourth and fifth such  
10          fiscal years.

11          (2) NON-FEDERAL SHARE.—The non-Federal  
12          share required under paragraph (1) may be provided  
13          in cash or in-kind.

14          (3) WAIVER.—The Secretary may waive all or  
15          part of the matching requirement of paragraph (1),  
16          for any fiscal year, if the Secretary determines  
17          that—

18                 (A) the application of the matching re-  
19                 quirement will result in serious hardship for the  
20                 partnership; or

1                   (B) the waiver will best serve the purposes  
2                   of this subtitle.

3           (e) SUPPLEMENT NOT SUPPLANT.—Grant funds  
4 provided under this subtitle shall be used to supplement,  
5 not supplant, other Federal and non-Federal funds avail-  
6 able to carry out the activities described in subsection (c).

7           (f) TECHNICAL ASSISTANCE.—The Secretary shall  
8 enter into a contract to establish a technical assistance  
9 center to provide technical assistance to partnerships de-  
10 veloping critical foreign language programs assisted under  
11 this subtitle. The center shall—

12                   (1) assist the partnerships in the development  
13                   of critical foreign language instructional materials  
14                   and assessments; and

15                   (2) disseminate promising foreign language in-  
16                   structional practices.

17           (g) PROGRAM EVALUATION.—

18                   (1) IN GENERAL.—The Secretary may reserve  
19                   not more than 5 percent of the total amount appro-  
20                   priated for this subtitle for any fiscal year to annu-  
21                   ally evaluate the programs under this subtitle.



1           (2) REPORT.—The Secretary shall prepare and  
2           annually submit, to the Committee on Health, Edu-  
3           cation, Labor, and Pensions of the Senate, the Com-  
4           mittee on Education and Labor of the House of  
5           Representatives, and the Committees on Appropria-  
6           tions of the Senate and House of Representatives, a  
7           report—

8                   (A) on the results of any program evalua-  
9                   tion conducted under this subsection; and

10                   (B) that includes best practices on the  
11                   teaching and learning of foreign languages  
12                   based on the findings from the evaluation.

13 **SEC. 6304. AUTHORIZATION OF APPROPRIATIONS.**

14           For the purpose of carrying out this subtitle, there  
15           are authorized to be appropriated \$28,000,000 for fiscal  
16           year 2008, and such sums as may be necessary for each  
17           of the 2 succeeding fiscal years.

1                   **Subtitle D—Alignment of**  
2                   **Education Programs**

3   **SEC. 6401. ALIGNMENT OF SECONDARY SCHOOL GRADUA-**  
4                   **TION REQUIREMENTS WITH THE DEMANDS**  
5                   **OF 21ST CENTURY POSTSECONDARY ENDEAV-**  
6                   **ORS AND SUPPORT FOR P-16 EDUCATION**  
7                   **DATA SYSTEMS.**

8           (a) PURPOSE.—It is the purpose of this section—

9                   (1) to promote more accountability with respect  
10                  to preparation for higher education, the 21st century  
11                  workforce, and the Armed Forces, by aligning—

12                   (A) student knowledge, student skills,  
13                   State academic content standards and assess-  
14                   ments, and curricula, in elementary and sec-  
15                   ondary education, especially with respect to  
16                   mathematics, science, reading, and, where ap-  
17                   plicable, engineering and technology; with

18                   (B) the demands of higher education, the  
19                   21st century workforce, and the Armed Forces;

1           (2) to support the establishment or improve-  
2           ment of statewide P–16 education data systems  
3           that—

4                   (A) assist States in improving the rigor  
5                   and quality of State academic content stand-  
6                   ards and assessments;

7                   (B) ensure students are prepared to suc-  
8                   ceed in—

9                           (i) academic credit-bearing coursework  
10                           in higher education without the need for  
11                           remediation;

12                           (ii) the 21st century workforce; or

13                           (iii) the Armed Forces; and

14           (3) enable States to have valid and reliable in-  
15           formation to inform education policy and practice.

16           (b) DEFINITIONS.—In this section:

17                   (1) P–16 EDUCATION.—The term “P–16 edu-  
18                   cation” means the educational system from pre-  
19                   school through the conferring of a baccalaureate de-  
20                   gree.

- 1           (2) STATEWIDE PARTNERSHIP.—The term  
2           “statewide partnership” means a partnership that—  
3           (A) shall include—  
4                 (i) the Governor of the State or the  
5                 designee of the Governor;  
6                 (ii) the heads of the State systems for  
7                 public higher education, or, if such a posi-  
8                 tion does not exist, not less than 1 rep-  
9                 resentative of a public degree-granting in-  
10                stitution of higher education;  
11                (iii) a representative of the agencies in  
12                the State that administer Federal or State-  
13                funded early childhood education pro-  
14                grams;  
15                (iv) not less than 1 representative of  
16                a public community college;  
17                (v) not less than 1 representative of a  
18                technical school;  
19                (vi) not less than 1 representative of  
20                a public secondary school;  
21                (vii) the chief State school officer;

- 1 (viii) the chief executive officer of the
- 2 State higher education coordinating board;
- 3 (ix) not less than 1 public elementary
- 4 school teacher employed in the State;
- 5 (x) not less than 1 early childhood ed-
- 6 ucator in the State;
- 7 (xi) not less than 1 public secondary
- 8 school teacher employed in the State;
- 9 (xii) not less than 1 representative of
- 10 the business community in the State; and
- 11 (xiii) not less than 1 member of the
- 12 Armed Forces; and
- 13 (B) may include other individuals or rep-
- 14 resentatives of other organizations, such as a
- 15 school administrator, a faculty member at an
- 16 institution of higher education, a member of a
- 17 civic or community organization, a representa-
- 18 tive from a private institution of higher edu-
- 19 cation, a dean or similar representative of a
- 20 school of education at an institution of higher
- 21 education or a similar teacher certification or li-

1           censure program, or the State official respon-  
2           sible for economic development.

3       (c) GRANTS AUTHORIZED.—The Secretary is author-  
4 ized to award grants, on a competitive basis, to States to  
5 enable each such State to work with a statewide partner-  
6 ship—

7           (1) to promote better alignment of content  
8       knowledge requirements for secondary school grad-  
9       uation with the knowledge and skills needed to suc-  
10      ceed in postsecondary education, the 21st century  
11      workforce, or the Armed Forces; or

12          (2) to establish or improve a statewide P-16  
13      education data system.

14      (d) PERIOD OF GRANTS; NON-RENEWABILITY.—

15          (1) GRANT PERIOD.—The Secretary shall  
16      award a grant under this section for a period of not  
17      more than 3 years.

18          (2) NON-RENEWABILITY.—The Secretary shall  
19      not award a State more than 1 grant under this sec-  
20      tion.

21      (e) AUTHORIZED ACTIVITIES.—

1           (1) GRANTS FOR P-16 ALIGNMENT.—Each  
2           State receiving a grant under subsection (c)(1)—  
3           (A) shall use the grant funds for—  
4           (i) identifying and describing the con-  
5           tent knowledge and skills students who  
6           enter institutions of higher education, the  
7           workforce, and the Armed Forces need to  
8           have in order to succeed without any reme-  
9           diation based on detailed requirements ob-  
10          tained from institutions of higher edu-  
11          cation, employers, and the Armed Forces;  
12          (ii) identifying and making changes  
13          that need to be made to a State’s sec-  
14          ondary school graduation requirements,  
15          academic content standards, academic  
16          achievement standards, and assessments  
17          preceding graduation from secondary  
18          school in order to align the requirements,  
19          standards, and assessments with the  
20          knowledge and skills necessary for success  
21          in academic credit-bearing coursework in

1 postsecondary education, in the 21st cen-  
2 tury workforce, and in the Armed Forces  
3 without the need for remediation;

4 (iii) convening stakeholders within the  
5 State and creating a forum for identifying  
6 and deliberating on education issues that—

7 (I) involve preschool through  
8 grade 12 education, postsecondary  
9 education, the 21st century workforce,  
10 and the Armed Forces; and

11 (II) transcend any single system  
12 of education's ability to address; and

13 (iv) implementing activities designed  
14 to ensure the enrollment of all elementary  
15 school and secondary school students in  
16 rigorous coursework, which may include—

17 (I) specifying the courses and  
18 performance levels necessary for ac-  
19 ceptance into institutions of higher  
20 education; and



1                   (II) developing or providing guid-  
2                   ance to local educational agencies  
3                   within the State on the adoption of  
4                   curricula and assessments aligned  
5                   with State academic content stand-  
6                   ards, which assessments may be used  
7                   as measures of student academic  
8                   achievement in secondary school as  
9                   well as for entrance or placement at  
10                  institutions of higher education, in-  
11                  cluding through collaboration with in-  
12                  stitutions of higher education in, or  
13                  State educational agencies serving,  
14                  other States; and

15                  (B) may use the grant funds for—

16                   (i) developing and making available  
17                   specific opportunities for extensive profes-  
18                   sional development for teachers, para-  
19                   professionals, principals, and school admin-  
20                   istrators, including collection and dissemi-  
21                   nation of effective teaching practices to im-

1           prove instruction and instructional support  
2           mechanisms;

3                   (ii) identifying changes in State aca-  
4           ademic content standards, academic achieve-  
5           ment standards, and assessments for stu-  
6           dents in grades preceding secondary school  
7           in order to ensure such standards and as-  
8           sessments are appropriately aligned and  
9           adequately reflect the content needed to  
10          prepare students to enter secondary school;

11                   (iii) developing a plan to provide re-  
12          mediation and additional learning opportu-  
13          nities for students who are performing  
14          below grade level to ensure that all stu-  
15          dents will have the opportunity to meet  
16          secondary school graduation requirements;

17                   (iv) identifying and addressing teacher  
18          certification needs; or

19                   (v) incorporating 21st century learn-  
20          ing skills into the State plan, which skills  
21          shall include critical thinking, problem

1 solving, communication, collaboration,  
2 global awareness, and business and finan-  
3 cial literacy.

4 (2) GRANTS FOR STATEWIDE P-16 EDUCATION  
5 DATA SYSTEMS.—

6 (A) ESTABLISHMENT OF SYSTEM.—Each  
7 State that receives a grant under subsection  
8 (c)(2) shall establish a statewide P-16 edu-  
9 cation longitudinal data system that—

10 (i) provides each student, upon enroll-  
11 ment in a public elementary school or sec-  
12 ondary school in the State, with a unique  
13 identifier, such as a bar code, that—

14 (I) does not permit a student to  
15 be individually identified by users of  
16 the system; and

17 (II) is retained throughout the  
18 student's enrollment in P-16 edu-  
19 cation in the State; and

20 (ii) meets the requirements of sub-  
21 paragraphs (B) through (E).

1           (B) IMPROVEMENT OF EXISTING SYS-  
2           TEM.—Each State that receives a grant under  
3           subsection (c)(2) for the improvement of a  
4           statewide P–16 education data system may em-  
5           ploy, coordinate, or revise an existing statewide  
6           data system to establish a statewide longitu-  
7           dinal P–16 education data system that meets  
8           the requirements of subparagraph (A), if the  
9           statewide longitudinal P–16 education data sys-  
10          tem produces valid and reliable data.

11          (C) PRIVACY AND ACCESS TO DATA.—

12           (i) IN GENERAL.—Each State that re-  
13          ceives a grant under subsection (c)(2) shall  
14          implement measures to—

15           (I) ensure that the statewide P–  
16          16 education data system meets the  
17          requirements of section 444 of the  
18          General Education Provisions Act (20  
19          U.S.C. 1232g) (commonly known as  
20          the Family Educational Rights and  
21          Privacy Act of 1974);

1                   (II) limit the use of information  
2                   in the statewide P-16 education data  
3                   system by institutions of higher edu-  
4                   cation and State or local educational  
5                   agencies or institutions to the activi-  
6                   ties set forth in paragraph (1) or  
7                   State law regarding education, con-  
8                   sistent with the purposes of this sub-  
9                   title;

10                  (III) prohibit the disclosure of  
11                  personally identifiable information ex-  
12                  cept as permitted under section 444  
13                  of the General Education Provisions  
14                  Act and any additional limitations set  
15                  forth in State law;

16                  (IV) keep an accurate accounting  
17                  of the date, nature, and purpose of  
18                  each disclosure of personally identifi-  
19                  able information in the statewide P-  
20                  16 education data system, a descrip-  
21                  tion of the information disclosed, and

1 the name and address of the person,  
2 agency, institution, or entity to whom  
3 the disclosure is made, which account-  
4 ing shall be made available on request  
5 to parents of any student whose infor-  
6 mation has been disclosed;

7 (V) notwithstanding section 444  
8 of the General Education Provisions  
9 Act, require any non-governmental  
10 party obtaining personally identifiable  
11 information to sign a data use agree-  
12 ment prior to disclosure that—

13 (aa) prohibits the party  
14 from further disclosing the infor-  
15 mation;

16 (bb) prohibits the party  
17 from using the information for  
18 any purpose other than the pur-  
19 pose specified in the agreement;  
20 and

1 (cc) requires the party to de-  
2 stroy the information when the  
3 purpose for which the disclosure  
4 was made is accomplished;

5 (VI) maintain adequate security  
6 measures to ensure the confidentiality  
7 and integrity of the statewide P-16  
8 education data system, such as pro-  
9 tecting a student record from identi-  
10 fication by a unique identifier;

11 (VII) where rights are provided  
12 to parents under this clause, provide  
13 those rights to the student instead of  
14 the parent if the student has reached  
15 the age of 18 or is enrolled in a post-  
16 secondary educational institution; and

17 (VIII) ensure adequate enforce-  
18 ment of the requirements of this  
19 clause.

20 (ii) USE OF UNIQUE IDENTIFIERS.—

1                   (I) GOVERNMENTAL USE OF  
2                   UNIQUE IDENTIFIERS.—It shall be  
3                   unlawful for any Federal, State, or  
4                   local governmental agency to use the  
5                   unique identifiers employed in the  
6                   statewide P–16 education data sys-  
7                   tems for any purpose other than as  
8                   authorized by Federal or State law re-  
9                   garding education, or to deny any in-  
10                  dividual any right, benefit, or privilege  
11                  provided by law because of such indi-  
12                  vidual’s refusal to disclose the individ-  
13                  ual’s unique identifier.

14                  (II) REGULATIONS.—Not later  
15                  than 180 days after the date of enact-  
16                  ment of this Act, the Secretary shall  
17                  promulgate regulations governing the  
18                  use by governmental and non-govern-  
19                  mental entities of the unique identi-  
20                  fiers employed in statewide P–16 edu-  
21                  cation data systems, including, where



1           necessary, regulations requiring  
2           States desiring grants for statewide  
3           P–16 education data systems under  
4           this section to implement specified  
5           measures, with the goal of safe-  
6           guarding individual privacy to the  
7           maximum extent practicable con-  
8           sistent with the uses of the informa-  
9           tion authorized in this Act or other  
10          Federal or State law regarding edu-  
11          cation.

12                   (D) REQUIRED ELEMENTS OF A STATE-  
13          WIDE P–16 EDUCATION DATA SYSTEM.—The  
14          State shall ensure that the statewide P–16 edu-  
15          cation data system includes the following ele-  
16          ments:

17                           (i) PRESCHOOL THROUGH GRADE 12  
18          EDUCATION AND POSTSECONDARY EDU-  
19          CATION.—With respect to preschool  
20          through grade 12 education and postsec-  
21          ondary education—

- 1 (I) a unique statewide student
- 2 identifier that does not permit a stu-
- 3 dent to be individually identified by
- 4 users of the system;
- 5 (II) student-level enrollment, de-
- 6 mographic, and program participation
- 7 information;
- 8 (III) student-level information
- 9 about the points at which students
- 10 exit, transfer in, transfer out, drop
- 11 out, or complete P-16 education pro-
- 12 grams;
- 13 (IV) the capacity to communicate
- 14 with higher education data systems;
- 15 and
- 16 (V) a State data audit system as-
- 17 sessing data quality, validity, and reli-
- 18 ability.
- 19 (ii) PRESCHOOL THROUGH GRADE 12
- 20 EDUCATION.—With respect to preschool
- 21 through grade 12 education—

- 1 (I) yearly test records of indi-
- 2 vidual students with respect to assess-
- 3 ments under section 1111(b) of the
- 4 Elementary and Secondary Education
- 5 Act of 1965 (20 U.S.C. 6311(b));
- 6 (II) information on students not
- 7 tested by grade and subject;
- 8 (III) a teacher identifier system
- 9 with the ability to match teachers to
- 10 students;
- 11 (IV) student-level transcript in-
- 12 formation, including information on
- 13 courses completed and grades earned;
- 14 and
- 15 (V) student-level college readi-
- 16 ness test scores.
- 17 (iii) POSTSECONDARY EDUCATION.—
- 18 With respect to postsecondary education,
- 19 data that provide—
- 20 (I) information regarding the ex-
- 21 tent to which students transition suc-



1           ondary-level general education coursework;  
2           and

3                   (iii) use the data in the system to oth-  
4           erwise inform education policy and practice  
5           in order to better align State academic  
6           content standards, and curricula, with the  
7           demands of postsecondary education, the  
8           21st century workforce, and the Armed  
9           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 of P–16 edu-  
19       cation alignment activities, or the establishment or  
20       improvement of a statewide P–16 education data

1 system. The application shall include, at a minimum,  
2 the following:

3 (A) A description of the activities and pro-  
4 grams to be carried out with the grant funds  
5 and a comprehensive plan for carrying out the  
6 activities.

7 (B) A description of how the concerns and  
8 interests of the larger education community, in-  
9 cluding parents, students, teachers, teacher  
10 educators, principals, and preschool administra-  
11 tors will be represented in carrying out the au-  
12 thorized activities described in subsection (e).

13 (C) In the case of a State applying for  
14 funding for P-16 education alignment, a de-  
15 scription of how the State will provide assist-  
16 ance to local educational agencies in imple-  
17 menting rigorous State academic content stand-  
18 ards, substantive curricula, remediation, and  
19 acceleration opportunities for students, as well  
20 as other changes determined necessary by the  
21 State.

1           (D) In the case of a State applying for  
2           funding to establish or improve a statewide P-  
3           16 education data system—

4                   (i) a description of the privacy protec-  
5                   tion and enforcement measures that the  
6                   State has implemented or will implement  
7                   pursuant to subsection (e)(2)(C), and as-  
8                   surances that these measures will be in  
9                   place prior to the establishment or im-  
10                  provement of the statewide P-16 education  
11                  data system; and

12                   (ii) an assurance that the State will  
13                   continue to fund the statewide P-16 edu-  
14                   cation data system after the end of the  
15                   grant period.

16           (g) SUPPLEMENT NOT SUPPLANT.—Grant funds  
17           provided under this section shall be used to supplement,  
18           not supplant, other Federal, State, and local funds avail-  
19           able to carry out the authorized activities described in sub-  
20           section (e).

1           (h) MATCHING REQUIREMENT.—Each State that re-  
2 ceives a grant under this section shall provide, from non-  
3 Federal sources, an amount equal to 100 percent of the  
4 amount of the grant, in cash or in kind, to carry out the  
5 activities supported by the grant.

6           (i) RULE OF CONSTRUCTION.—

7               (1) NO RAW DATA REQUIREMENT.—Nothing in  
8 this section shall be construed to require States to  
9 provide raw data to the Secretary.

10           (2) PRIVATE OR HOME SCHOOLS.—Nothing in  
11 this section shall be construed to affect any private  
12 school that does not receive funds or services under  
13 this Act or any home school, whether or not the  
14 home school is treated as a home school or a private  
15 school under State law, including imposing new re-  
16 quirements for students educated through a home  
17 school seeking admission to institutions of higher  
18 education.

19           (j) AUTHORIZATION OF APPROPRIATIONS.—There  
20 are authorized to be appropriated to carry out this section



1 \$120,000,000 for fiscal year 2008 and such sums as may  
2 be necessary for fiscal year 2009.

3 **Subtitle E—Mathematics and**  
4 **Science Partnership Bonus Grants**

5 **SEC. 6501. MATHEMATICS AND SCIENCE PARTNERSHIP**  
6 **BONUS GRANTS.**

7 (a) IN GENERAL.—From amounts appropriated  
8 under section 6502, the Secretary shall award a grant—  
9 (1) for each of the school years 2007–2008  
10 through 2010–2011, to each of the 3 elementary  
11 schools, and each of the 3 secondary schools, each  
12 of which has a high concentration of low income stu-  
13 dents as defined in section 1707(2) of the Elemen-  
14 tary and Secondary Education Act of 1965 (20  
15 U.S.C. 6537(2)), in each State whose students dem-  
16 onstrate the most improvement in mathematics, as  
17 measured by the improvement in the students’ aver-  
18 age score on the State’s assessments in mathematics  
19 for the school year for which the grant is awarded,  
20 as compared to the school year preceding the school  
21 year for which the grant is awarded; and

1           (2) for each of the school years 2008–2009  
2 through 2010–2011, to each of the 3 elementary  
3 schools, and each of the 3 secondary schools, each  
4 of which has a high concentration of low income stu-  
5 dents as defined in section 1707(2) of the Elemen-  
6 tary and Secondary Education Act of 1965 (20  
7 U.S.C. 6537(2)), in each State whose students dem-  
8 onstrate the most improvement in science, as meas-  
9 ured by the improvement in the students’ average  
10 score on the State’s assessments in science for the  
11 school year for which the grant is awarded, as com-  
12 pared to the school year preceding the school year  
13 for which the grant is awarded.

14       (b) GRANT AMOUNT.—The amount of each grant  
15 awarded under this section shall be \$50,000.

16 **SEC. 6502. AUTHORIZATION OF APPROPRIATIONS.**

17       There are authorized to be appropriated to carry out  
18 this subtitle such sums as may be necessary for fiscal  
19 years 2008 and each of the 2 succeeding fiscal years.

1     **TITLE VII—NATIONAL SCIENCE**  
2                     **FOUNDATION**

3     **SEC. 7001. DEFINITIONS.**

4         In this title:

5             (1) **BASIC RESEARCH.**—The term “basic re-  
6             search” has the meaning given such term in the Of-  
7             fice of Management and Budget circular No. A-11.

8             (2) **BOARD.**—The term “Board” means the Na-  
9             tional Science Board established under section 2 of  
10            the National Science Foundation Act of 1950 (42  
11            U.S.C. 1861).

12            (3) **DIRECTOR.**—The term “Director” means  
13            the Director of the Foundation.

14            (4) **ELEMENTARY SCHOOL.**—The term “elemen-  
15            tary school” has the meaning given such term in  
16            section 9101 of the Elementary and Secondary Edu-  
17            cation Act of 1965 (20 U.S.C. 7801).

18            (5) **FOUNDATION.**—The term “Foundation”  
19            means the National Science Foundation.

20            (6) **INSTITUTION OF HIGHER EDUCATION.**—The  
21            term “institution of higher education” has the

1 meaning given such term in section 101(a) of the  
2 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

3 (7) SECONDARY SCHOOL.—The term “sec-  
4 ondary school” has the meaning given such term in  
5 section 9101 of the Elementary and Secondary Edu-  
6 cation Act of 1965 (20 U.S.C. 7801).

7 **SEC. 7002. AUTHORIZATION OF APPROPRIATIONS.**

8 (a) FISCAL YEAR 2008.—

9 (1) IN GENERAL.—There are authorized to be  
10 appropriated to the Foundation \$6,600,000,000 for  
11 fiscal year 2008.

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

14 (A) \$5,156,000,000 shall be made avail-  
15 able for research and related activities, of  
16 which—

17 (i) \$115,000,000 shall be made avail-  
18 able for the Major Research Instrumenta-  
19 tion program;

1 (ii) \$165,400,000 shall be made avail-  
2 able for the Faculty Early Career Develop-  
3 ment (CAREER) Program;

4 (iii) \$61,600,000 shall be made avail-  
5 able for the Research Experiences for Un-  
6 dergraduates program;

7 (iv) \$120,000,000 shall be made avail-  
8 able for the Experimental Program to  
9 Stimulate Competitive Research;

10 (v) \$47,300,000 shall be made avail-  
11 able for the Integrative Graduate Edu-  
12 cation and Research Traineeship program;

13 (vi) \$9,000,000 shall be made avail-  
14 able for the Graduate Research Fellowship  
15 program; and

16 (vii) \$10,000,000 shall be made avail-  
17 able for the professional science master's  
18 degree program under section 7034;

19 (B) \$896,000,000 shall be made available  
20 for education and human resources, of which—

1 (i) \$100,000,000 shall be for Mathe-  
2 matics and Science Education Partner-  
3 ships established under section 9 of the  
4 National Science Foundation Authorization  
5 Act of 2002 (42 U.S.C. 1862n);

6 (ii) \$89,800,000 shall be for the Rob-  
7 ert Noyce Scholarship Program established  
8 under section 10 of the National Science  
9 Foundation Authorization Act of 2002 (42  
10 U.S.C. 1862n-1);

11 (iii) \$40,000,000 shall be for the  
12 Science, Mathematics, Engineering, and  
13 Technology Talent Expansion Program es-  
14 tablished under section 8(7) of the Na-  
15 tional Science Foundation Authorization  
16 Act of 2002 (Public Law 107-368);

17 (iv) \$52,000,000 shall be for the Ad-  
18 vanced Technological Education program  
19 established by section 3(a) of the Scientific  
20 and Advanced-Technology Act of 1992  
21 (Public Law 102-476);

1 (v) \$27,100,000 shall be made avail-  
2 able for the Integrative Graduate Edu-  
3 cation and Research Traineeship program;  
4 and

5 (vi) \$96,600,000 shall be made avail-  
6 able for the Graduate Research Fellowship  
7 program;

8 (C) \$245,000,000 shall be made available  
9 for major research equipment and facilities con-  
10 struction;

11 (D) \$285,600,000 shall be made available  
12 for agency operations and award management;

13 (E) \$4,050,000 shall be made available for  
14 the Office of the National Science Board; and

15 (F) \$12,350,000 shall be made available  
16 for the Office of Inspector General.

17 (b) FISCAL YEAR 2009.—

18 (1) IN GENERAL.—There are authorized to be  
19 appropriated to the Foundation \$7,326,000,000 for  
20 fiscal year 2009.

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

3                   (A) \$5,742,300,000 shall be made avail-  
4           able for research and related activities, of  
5           which—

6                           (i) \$123,100,000 shall be made avail-  
7           able for the Major Research Instrumenta-  
8           tion program;

9                           (ii) \$183,600,000 shall be made avail-  
10          able for the Faculty Early Career Develop-  
11          ment (CAREER) Program;

12                           (iii) \$68,400,000 shall be made avail-  
13          able for the Research Experiences for Un-  
14          dergraduates program;

15                           (iv) \$133,200,000 shall be made avail-  
16          able for the Experimental Program to  
17          Stimulate Competitive Research;

18                           (v) \$52,500,000 shall be made avail-  
19          able for the Integrative Graduate Edu-  
20          cation and Research Traineeship program;



1 (vi) \$10,000,000 shall be made avail-  
2 able for the Graduate Research Fellowship  
3 program; and

4 (vii) \$12,000,000 shall be made avail-  
5 able for the professional science master's  
6 degree program under section 7034;

7 (B) \$995,000,000 shall be made available  
8 for education and human resources, of which—

9 (i) \$111,000,000 shall be for Mathe-  
10 matics and Science Education Partner-  
11 ships established under section 9 of the  
12 National Science Foundation Authorization  
13 Act of 2002 (42 U.S.C. 1862n);

14 (ii) \$115,000,000 shall be for the  
15 Robert Noyce Scholarship Program estab-  
16 lished under section 10 of the National  
17 Science Foundation Authorization Act of  
18 2002 (42 U.S.C. 1862n-1);

19 (iii) \$50,000,000 shall be for the  
20 Science, Mathematics, Engineering, and  
21 Technology Talent Expansion Program es-

1           tablISHED under section 8(7) of the Na-  
2           tional Science Foundation Authorization  
3           Act of 2002 (Public Law 107–368);

4           (iv) \$57,700,000 shall be for the Ad-  
5           vanced Technological Education program  
6           as established by section 3(a) of the Sci-  
7           entific and Advanced-Technology Act of  
8           1992 (Public Law 102–476);

9           (v) \$30,100,000 shall be made avail-  
10          able for the Integrative Graduate Edu-  
11          cation and Research Traineeship program;  
12          and

13          (vi) \$107,200,000 shall be made avail-  
14          able for the Graduate Research Fellowship  
15          program;

16          (C) \$262,000,000 shall be made available  
17          for major research equipment and facilities con-  
18          struction;

19          (D) \$309,760,000 shall be made available  
20          for agency operations and award management;

1                   (E) \$4,190,000 shall be made available for  
2                   the Office of the National Science Board; and

3                   (F) \$12,750,000 shall be made available  
4                   for the Office of Inspector General.

5           (c) FISCAL YEAR 2010.—

6                   (1) IN GENERAL.—There are authorized to be  
7                   appropriated to the Foundation \$8,132,000,000 for  
8                   fiscal year 2010.

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

11                   (A) \$6,401,000,000 shall be made avail-  
12                   able for research and related activities, of  
13                   which—

14                   (i) \$131,700,000 shall be made avail-  
15                   able for the Major Research Instrumenta-  
16                   tion program;

17                   (ii) \$203,800,000 shall be made avail-  
18                   able for the Faculty Early Career Develop-  
19                   ment (CAREER) Program;

1 (iii) \$75,900,000 shall be made avail-  
2 able for the Research Experiences for Un-  
3 dergraduates program;

4 (iv) \$147,800,000 shall be made avail-  
5 able for the Experimental Program to  
6 Stimulate Competitive Research;

7 (v) \$58,300,000 shall be made avail-  
8 able for the Integrative Graduate Edu-  
9 cation and Research Traineeship program;

10 (vi) \$11,100,000 shall be made avail-  
11 able for the Graduate Research Fellowship  
12 program; and

13 (vii) \$15,000,000 shall be made avail-  
14 able for the professional science master's  
15 degree program under section 7034;

16 (B) \$1,104,000,000 shall be made avail-  
17 able for education and human resources, of  
18 which—

19 (i) \$123,200,000 shall be for Mathe-  
20 matics and Science Education Partner-  
21 ships established under section 9 of the

1 National Science Foundation Authorization  
2 Act of 2002 (42 U.S.C. 1862n);

3 (ii) \$140,500,000 shall be for the  
4 Robert Noyce Scholarship Program estab-  
5 lished under section 10 of the National  
6 Science Foundation Authorization Act of  
7 2002 (42 U.S.C. 1862n-1);

8 (iii) \$55,000,000 shall be for the  
9 Science, Mathematics, Engineering, and  
10 Technology Talent Expansion Program es-  
11 tablished under section 8(7) of the Na-  
12 tional Science Foundation Authorization  
13 Act of 2002 (Public Law 107-368);

14 (iv) \$64,000,000 shall be for the Ad-  
15 vanced Technological Education program  
16 as established by section 3(a) of the Sci-  
17 entific and Advanced-Technology Act of  
18 1992 (Public Law 102-476);

19 (v) \$33,400,000 shall be made avail-  
20 able for the Integrative Graduate Edu-

1 cation and Research Traineeship program;

2 and

3 (vi) \$119,000,000 shall be made avail-  
4 able for the Graduate Research Fellowship  
5 program;

6 (C) \$280,000,000 shall be made available  
7 for major research equipment and facilities con-  
8 struction;

9 (D) \$329,450,000 shall be made available  
10 for agency operations and award management;

11 (E) \$4,340,000 shall be made available for  
12 the Office of the National Science Board; and

13 (F) \$13,210,000 shall be made available  
14 for the Office of Inspector General.

15 **SEC. 7003. REAFFIRMATION OF THE MERIT-REVIEW PROC-**  
16 **ESS OF THE NATIONAL SCIENCE FOUNDA-**  
17 **TION.**

18 Nothing in this title or title I, or the amendments  
19 made by this title or title I, shall be interpreted to require  
20 or recommend that the 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. 7004. SENSE OF THE CONGRESS REGARDING THE**  
6 **MATHEMATICS AND SCIENCE PARTNERSHIP**  
7 **PROGRAMS OF THE DEPARTMENT OF EDU-**  
8 **CATION AND THE NATIONAL SCIENCE FOUN-**  
9 **DATION.**

10 It is the sense of the Congress that—

11           (1) although the mathematics and science edu-  
12 cation partnership program at the Foundation and  
13 the mathematics and science partnership program at  
14 the Department of Education practically share the  
15 same name, the 2 programs are intended to be com-  
16 plementary, not duplicative;

17           (2) the Foundation partnership programs are  
18 innovative, model reform initiatives that move prom-  
19 ising ideas in education from research into practice  
20 to improve teacher quality, develop challenging cur-  
21 ricula, and increase student achievement in mathe-

1       matics and science, and Congress intends that the  
2       Foundation peer-reviewed partnership programs  
3       found to be effective should be put into wider prac-  
4       tice by dissemination through the Department of  
5       Education partnership programs; and

6           (3) the Director and the Secretary of Education  
7       should have ongoing collaboration to ensure that the  
8       2 components of this priority effort for mathematics  
9       and science education continue to work in concert  
10      for the benefit of States and local practitioners na-  
11      tionwide.

12   **SEC. 7005. CURRICULA.**

13      Nothing in this title, or the amendments made by this  
14      title, shall be construed to limit the authority of State gov-  
15      ernments or local school boards to determine the curricula  
16      of their students.

17   **SEC. 7006. CENTERS FOR RESEARCH ON LEARNING AND**  
18                   **EDUCATION IMPROVEMENT.**

19      (a) **FUNDING FOR CENTERS.**—The Director shall  
20      continue to carry out the program of Centers for Research  
21      on Learning and Education Improvement as established



1 in section 11 of the National Science Foundation Author-  
2 ization Act of 2002 (42 U.S.C. 1862n-2).

3 (b) ELIGIBILITY FOR CENTERS.—Section 11 of the  
4 National Science Foundation Authorization Act of 2002  
5 (42 U.S.C. 1862n-2) is amended—

6 (1) in subsection (a)(1), by inserting “or eligi-  
7 ble nonprofit organizations” after “institutions of  
8 higher education”;

9 (2) in subsection (b)(1), by inserting “or an eli-  
10 gible nonprofit organization” after “institution of  
11 higher education”; and

12 (3) in subsection (b)(1), by striking “of such in-  
13 stitutions” and inserting “thereof”.

14 **SEC. 7007. INTERDISCIPLINARY RESEARCH.**

15 (a) IN GENERAL.—The Board shall evaluate the role  
16 of the Foundation in supporting interdisciplinary research,  
17 including through the Major Research Instrumentation  
18 program, the effectiveness of the Foundation’s efforts in  
19 providing information to the scientific community about  
20 opportunities for funding of interdisciplinary research pro-  
21 posals, and the process through which interdisciplinary

1 proposals are selected for support. The Board shall also  
2 evaluate the effectiveness of the Foundation's efforts to  
3 engage undergraduate students in research experiences in  
4 interdisciplinary settings, including through the Research  
5 in Undergraduate Institutions program and the Research  
6 Experiences for Undergraduates program.

7 (b) REPORT.—Not later than 1 year after the date  
8 of enactment of this Act, the Board shall provide the re-  
9 sults of its evaluation under subsection (a), including a  
10 recommendation for the proportion of the Foundation's re-  
11 search and related activities funding that should be allo-  
12 cated for interdisciplinary research, to the Committee on  
13 Science and Technology of the House of Representatives  
14 and the Committee on Commerce, Science, and Transpor-  
15 tation and the Committee on Health, Education, Labor,  
16 and Pensions of the Senate.

17 **SEC. 7008. POSTDOCTORAL RESEARCH FELLOWS.**

18 (a) MENTORING.—The Director shall require that all  
19 grant applications that include funding to support  
20 postdoctoral researchers include a description of the men-  
21 toring activities that will be provided for such individuals,

1 and shall ensure that this part of the application is evalu-  
2 ated under the Foundation's broader impacts merit review  
3 criterion. Mentoring activities may include career coun-  
4 seling, training in preparing grant applications, guidance  
5 on ways to improve teaching skills, and training in re-  
6 search ethics.

7 (b) **REPORTS.**—The Director shall require that an-  
8 nual reports and the final report for research grants that  
9 include funding to support postdoctoral researchers in-  
10 clude a description of the mentoring activities provided to  
11 such researchers.

12 **SEC. 7009. RESPONSIBLE CONDUCT OF RESEARCH.**

13 The Director shall require that each institution that  
14 applies for financial assistance from the Foundation for  
15 science and engineering research or education describe in  
16 its grant proposal a plan to provide appropriate training  
17 and oversight in the responsible and ethical conduct of re-  
18 search to undergraduate students, graduate students, and  
19 postdoctoral researchers participating in the proposed re-  
20 search project.

1 **SEC. 7010. REPORTING OF RESEARCH RESULTS.**

2       The Director shall ensure that all final project re-  
3 ports and citations of published research documents re-  
4 sulting from research funded, in whole or in part, by the  
5 Foundation, are made available to the public in a timely  
6 manner and in electronic form through the Foundation's  
7 Web site.

8 **SEC. 7011. SHARING RESEARCH RESULTS.**

9       An investigator supported under a Foundation  
10 award, whom the Director determines has failed to comply  
11 with the provisions of section 734 of the Foundation Grant  
12 Policy Manual, shall be ineligible for a future award under  
13 any Foundation supported program or activity. The Direc-  
14 tor may restore the eligibility of such an investigator on  
15 the basis of the investigator's subsequent compliance with  
16 the provisions of section 734 of the Foundation Grant Pol-  
17 icy Manual and with such other terms and conditions as  
18 the Director may impose.

1 **SEC. 7012. FUNDING FOR SUCCESSFUL SCIENCE, TECH-**  
2 **NOLOGY, ENGINEERING, AND MATHEMATICS**  
3 **EDUCATION PROGRAMS.**

4 (a) **EVALUATION OF PROGRAMS.**—The Director shall,  
5 on an annual basis, evaluate all of the Foundation’s grants  
6 that are scheduled to expire within 1 year and—

7 (1) that have the primary purpose of meeting  
8 the objectives of the Science and Engineering Equal  
9 Opportunity Act (42 U.S.C. 1885 et seq.); or

10 (2) that have the primary purpose of providing  
11 teacher professional development.

12 (b) **CONTINUATION OF FUNDING.**—For grants that  
13 are identified under subsection (a) and that are deter-  
14 mined by the Director to be successful in meeting the ob-  
15 jectives of the initial grant solicitation, the Director may  
16 extend the duration of those grants for not more than 3  
17 additional years beyond their scheduled expiration without  
18 the requirement for a recompetition.

19 (c) **REPORT TO CONGRESS.**—Not later than 1 year  
20 after the date of enactment of this Act, and annually  
21 thereafter, the Director shall submit a report to the Com-

1 mittee on Science and Technology of the House of Rep-  
2 resentatives and to the Committee on Commerce, Science,  
3 and Transportation and the Committee on Health, Edu-  
4 cation, Labor, and Pensions of the Senate that—

5           (1) lists the grants that have been extended in  
6 duration by the authority provided under this sec-  
7 tion; and

8           (2) provides any recommendations the Director  
9 may have regarding the extension of the authority  
10 provided under this section to programs other than  
11 those specified in subsection (a).

12 **SEC. 7013. COST SHARING.**

13       (a) IN GENERAL.—The Board shall evaluate the im-  
14 pact of its policy to eliminate cost sharing for research  
15 grants and cooperative agreements for existing programs  
16 that were developed around industry partnerships and his-  
17 torically required industry cost sharing, such as the Engi-  
18 neering Research Centers and Industry/University Coop-  
19 erative Research Centers. The Board shall also consider  
20 the impact that the cost sharing policy has on initiating

1 new programs for which industry interest and participa-  
2 tion are sought.

3 (b) REPORT.—Not later than 6 months after the date  
4 of enactment of this Act, the Board shall report to the  
5 Committee on Science and Technology and the Committee  
6 on Appropriations of the House of Representatives, and  
7 the Committee on Commerce, Science, and Transpor-  
8 tation, the Committee on Health, Education, Labor, and  
9 Pensions, and the Committee on Appropriations of the  
10 Senate, on the results of the evaluation under subsection  
11 (a).

12 **SEC. 7014. ADDITIONAL REPORTS.**

13 (a) REPORT ON FUNDING FOR MAJOR FACILITIES.—

14 (1) PRECONSTRUCTION FUNDING.—The Board  
15 shall evaluate the appropriateness of the require-  
16 ment that funding for detailed design work and  
17 other preconstruction activities for major research  
18 equipment and facilities come exclusively from the  
19 sponsoring research division rather than being avail-  
20 able, at least in part, from the Major Research  
21 Equipment and Facilities Construction account.

1           (2) MAINTENANCE AND OPERATION COSTS.—  
2           The Board shall evaluate the appropriateness of the  
3           Foundation’s policies for allocation of costs for, and  
4           oversight of, maintenance and operation of major re-  
5           search equipment and facilities.

6           (3) REPORT.—Not later than 6 months after  
7           the date of enactment of this Act, the Board shall  
8           report on the results of the evaluations under para-  
9           graphs (1) and (2) and on any recommendations for  
10          modifying the current policies related to allocation of  
11          funding for major research equipment and facilities  
12          to the Committee on Science and Technology and  
13          the Committee on Appropriations of the House of  
14          Representatives, and to the Committee on Com-  
15          merce, Science, and Transportation, the Committee  
16          on Health, Education, Labor, and Pensions, and the  
17          Committee on Appropriations of the Senate.

18          (b) INCLUSION OF POLAR FACILITIES UPGRADES IN  
19          MAJOR RESEARCH EQUIPMENT AND FACILITIES CON-  
20          STRUCTION PLAN.—Section 201(a)(2)(D) of the National  
21          Science Foundation Authorization Act of 1998 (42 U.S.C.



1 1862l(a)(2)(D)) is amended by inserting “and for major  
2 upgrades of facilities in support of Antarctic research pro-  
3 grams” after “facilities construction account”.

4 (c) REPORT ON EDUCATION PROGRAMS WITHIN THE  
5 RESEARCH DIRECTORATES.—Not later than 6 months  
6 after the date of enactment of this Act, the Director shall  
7 transmit to the Committee on Science and Technology of  
8 the House of Representatives and the Committee on Com-  
9 merce, Science, and Transportation and the Committee on  
10 Health, Education, Labor, and Pensions of the Senate a  
11 report cataloging all elementary school and secondary  
12 school, informal, and undergraduate educational programs  
13 and activities supported through appropriations for Re-  
14 search and Related Activities. The report shall display the  
15 programs and activities by directorate, along with esti-  
16 mated funding levels for the fiscal years 2006, 2007, and  
17 2008, and shall provide a description of the goals of each  
18 program and activity. The report shall also describe how  
19 the programs and activities relate to or are coordinated  
20 with the programs supported by the Education and  
21 Human Resources Directorate.

1           (d) REPORT ON RESEARCH IN UNDERGRADUATE IN-  
2           STITUTIONS PROGRAM.—The Director shall transmit to  
3           Congress, as part of the President’s fiscal year 2011 budg-  
4           et submission under section 1105 of title 31, United  
5           States Code, a report listing the funding success rates and  
6           distribution of awards for the Research in Undergraduate  
7           Institutions program, by type of institution based on the  
8           highest academic degree conferred by the institution, for  
9           fiscal years 2008, 2009, and 2010.

10          (e) ANNUAL PLAN FOR ALLOCATION OF EDUCATION  
11          AND HUMAN RESOURCES FUNDING.—

12               (1) IN GENERAL.—Not later than 60 days after  
13               the date of enactment of legislation providing for the  
14               annual appropriation of funds for the Foundation,  
15               the Director shall submit to the Committee on  
16               Science and Technology and the Committee on Ap-  
17               propriations of the House of Representatives, and to  
18               the Committee on Commerce, Science, and Trans-  
19               portation, the Committee on Health, Education,  
20               Labor, and Pensions, and the Committee on Appro-  
21               priations of the Senate, a plan for the allocation of

1 education and human resources funds authorized by  
2 this title for the corresponding fiscal year, including  
3 any funds from within the research and related ac-  
4 tivities account used to support activities that have  
5 the primary purpose of improving education or  
6 broadening participation.

7 (2) SPECIFIC REQUIREMENTS.—The plan shall  
8 include a description of how the allocation of fund-  
9 ing—

10 (A) will affect the average size and dura-  
11 tion of education and human resources grants  
12 supported by the Foundation;

13 (B) will affect trends in research support  
14 for the effective instruction of science, tech-  
15 nology, engineering, and mathematics;

16 (C) will affect the kindergarten through  
17 grade 20 pipeline for the study of science, tech-  
18 nology, engineering, and mathematics; and

19 (D) will encourage the interest of individ-  
20 uals identified in section 33 or 34 of the  
21 Science and Engineering Equal Opportunities

1 Act (42 U.S.C. 1885a or 1885b) in science,  
2 technology, engineering, and mathematics, and  
3 help prepare such individuals to pursue postsec-  
4 ondary studies in these fields.

5 **SEC. 7015. ADMINISTRATIVE AMENDMENTS.**

6 (a) TRIANNUAL AUDIT OF THE OFFICE OF THE NA-  
7 TIONAL SCIENCE BOARD.—Section 15(a) of the National  
8 Science Foundation Authorization Act of 2002 (42 U.S.C.  
9 1862n–5) is amended—

10 (1) in paragraph (3), by striking “an annual  
11 audit” and inserting “an audit every three years”;

12 (2) in paragraph (4), by striking “each year”  
13 and inserting “every third year”; and

14 (3) by inserting after paragraph (4) the fol-  
15 lowing:

16 “(5) MATERIALS RELATING TO CLOSED POR-  
17 TIONS OF MEETINGS.—To facilitate the audit re-  
18 quired under paragraph (3) of this subsection, the  
19 Office of the National Science Board shall maintain  
20 the General Counsel’s certificate, the presiding offi-  
21 cer’s statement, and a transcript or recording of any

1 closed meeting, for at least 3 years after such meet-  
2 ing.”.

3 (b) LIMITED TERM PERSONNEL FOR THE NATIONAL  
4 SCIENCE BOARD.—Subsection (g) of section 4 of the Na-  
5 tional Science Foundation Act of 1950 (42 U.S.C.  
6 1863(g)) is amended to read as follows:

7 “(g) The Board may, with the concurrence of a ma-  
8 jority of its members, permit the appointment of a staff  
9 consisting of not more than 5 professional staff members,  
10 technical and professional personnel on leave of absence  
11 from academic, industrial, or research institutions for a  
12 limited term, and such operations and support staff mem-  
13 bers as may be necessary. Such staff shall be appointed  
14 by the Chairman and assigned at the direction of the  
15 Board. The professional members and limited term tech-  
16 nical and professional personnel of such staff may be ap-  
17 pointed without regard to the provisions of title 5, United  
18 States Code, governing appointments in the competitive  
19 service, and the provisions of chapter 51 of such title relat-  
20 ing to classification, and shall be compensated at a rate  
21 not exceeding the maximum rate payable under section

1 5376 of such title, as may be necessary to provide for the  
2 performance of such duties as may be prescribed by the  
3 Board in connection with the exercise of its powers and  
4 functions under this Act. Section 14(a)(3) shall apply to  
5 each limited term appointment of technical and profes-  
6 sional personnel under this subsection. Each appointment  
7 under this subsection shall be subject to the same security  
8 requirements as those required for personnel of the Foun-  
9 dation appointed under section 14(a).”.

10 (c) INCREASE IN NUMBER OF WATERMAN AWARDS  
11 TO THREE.—Section 6(c) of the National Science Founda-  
12 tion Authorization Act, 1976 (42 U.S.C. 1881a) is amend-  
13 ed to read as follows:

14 “(c) Not more than three awards may be made under  
15 this section in any one fiscal year.”.

16 **SEC. 7016. NATIONAL SCIENCE BOARD REPORTS.**

17 Paragraphs (1) and (2) of section 4(j) of the National  
18 Science Foundation Act of 1950 (42 U.S.C. 1863(j)(1)  
19 and (2)) are amended by striking “, for submission to”  
20 and “for submission to”, respectively, and inserting  
21 “and”.

1 **SEC. 7017. PROGRAM FRAUD CIVIL REMEDIES ACT OF 1986**  
2 **AMENDMENT.**

3 Section 3801(a)(1) of title 31, United States Code  
4 (commonly known as the “Program Fraud Civil Remedies  
5 Act of 1986”) is amended—

6 (1) in subparagraph (C), by striking “and”  
7 after the semicolon;

8 (2) in subparagraph (D), by inserting “and”  
9 after the semicolon; and

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

11 “(E) the National Science Foundation.”.

12 **SEC. 7018. MEETING CRITICAL NATIONAL SCIENCE NEEDS.**

13 (a) IN GENERAL.—In addition to any other criteria,  
14 the Director shall include consideration of the degree to  
15 which awards and research activities that otherwise qual-  
16 ify for support by the Foundation may assist in meeting  
17 critical national needs in innovation, competitiveness, the  
18 physical and natural sciences, technology, engineering,  
19 and mathematics.

20 (b) PRIORITY TREATMENT.—The Director shall give  
21 priority in the selection of awards and the allocation of

1 Foundation resources to proposed research activities, and  
2 grants funded under the Foundation's Research and Re-  
3 lated Activities Account, that can be expected to make  
4 contributions in physical or natural science, technology,  
5 engineering, or mathematics, or that enhance competitive-  
6 ness or innovation in the United States.

7 (c) LIMITATION.—Nothing in this section shall be  
8 construed to restrict or bias the grant selection process  
9 against funding other areas of research deemed by the  
10 Foundation to be consistent with its mandate nor to  
11 change the core mission of the Foundation.

12 **SEC. 7019. RESEARCH ON INNOVATION AND INVENTIVE-**  
13 **NESS.**

14 In carrying out its research programs on science pol-  
15 icy and on the science of learning, the Foundation may  
16 support research on the process of innovation and the  
17 teaching of inventiveness.

18 **SEC. 7020. CYBERINFRASTRUCTURE.**

19 In order to continue and expand efforts to ensure  
20 that research institutions throughout the Nation can fully  
21 participate in research programs of the Foundation and



1 collaborate with colleagues throughout the Nation, the Di-  
2 rector, not later than 180 days after the date of enactment  
3 of this Act, shall develop and publish a plan that—

4 (1) describes the current status of broadband  
5 access for scientific research purposes at institutions  
6 in EPSCoR-eligible States, at institutions in rural  
7 areas, and at minority serving institutions; and

8 (2) outlines actions that can be taken to ensure  
9 that such connections are available to enable partici-  
10 pation in those Foundation programs that rely heav-  
11 ily on high-speed networking and collaborations  
12 across institutions and regions.

13 **SEC. 7021. PILOT PROGRAM OF GRANTS FOR NEW INVES-**  
14 **TIGATORS.**

15 (a) **IN GENERAL.**—The Director shall carry out a  
16 pilot program to award 1-year grants to individuals to as-  
17 sist them in improving research proposals that were pre-  
18 viously submitted to the Foundation but not selected for  
19 funding.

20 (b) **ELIGIBILITY.**—To be eligible to receive a grant  
21 under this section, an individual—

1           (1) may not have previously received funding as  
2           the principal investigator of a research grant from  
3           the Foundation; and

4           (2) shall have submitted a proposal to the  
5           Foundation, which may include a proposal submitted  
6           to the Research in Undergraduate Institutions pro-  
7           gram, that was rated excellent under the Founda-  
8           tion's competitive merit review process.

9           (c) SELECTION PROCESS.—The Director shall make  
10          awards under this section based on the advice of the pro-  
11          gram officers of the Foundation.

12          (d) USE OF FUNDS.—Grants awarded under this sec-  
13          tion shall be used to enable an individual to resubmit an  
14          updated research proposal for review by the Foundation  
15          through the agency's competitive merit review process.  
16          Uses of funds made available under this section may in-  
17          clude the generation of new data and the performance of  
18          additional analysis.

19          (e) PROGRAM ADMINISTRATION.—The Director shall  
20          carry out this section through the Small Grants for Ex-  
21          ploratory Research program.

1           (f) NATIONAL SCIENCE BOARD REVIEW.—The  
2 Board shall conduct a review and assessment of the pilot  
3 program under this section, including the number of new  
4 investigators funded, the distribution of awards by type  
5 of institution of higher education, and the success rate  
6 upon resubmittal of proposals by new investigators funded  
7 through such pilot program. Not later than 3 years after  
8 the date of enactment of this Act, the Board shall summa-  
9 rize its findings and any recommendations regarding  
10 changes to, the termination of, or the continuation of the  
11 pilot program in a report to the Committee on Science  
12 and Technology of the House of Representatives and the  
13 Committee on Commerce, Science, and Transportation  
14 and the Committee on Health, Education, Labor, and  
15 Pensions of the Senate.

16 **SEC. 7022. BROADER IMPACTS MERIT REVIEW CRITERION.**

17           (a) IN GENERAL.—Among the types of activities that  
18 the Foundation shall consider as appropriate for meeting  
19 the requirements of its broader impacts criterion for the  
20 evaluation of research proposals are partnerships between  
21 academic researchers and industrial scientists and engi-

1 needs that address research areas identified as having high  
2 importance for future national economic competitiveness,  
3 such as nanotechnology.

4 (b) REPORT ON BROADER IMPACTS CRITERION.—  
5 Not later than 1 year after the date of enactment of this  
6 Act, the Director shall transmit to Congress a report on  
7 the impact of the broader impacts grant criterion used by  
8 the Foundation. The report shall—

9 (1) identify the criteria that each division and  
10 directorate of the Foundation uses to evaluate the  
11 broader impacts aspects of research proposals;

12 (2) provide a breakdown of the types of activi-  
13 ties by division that awardees have proposed to carry  
14 out to meet the broader impacts criterion;

15 (3) provide any evaluations performed by the  
16 Foundation to assess the degree to which the broad-  
17 er impacts aspects of research proposals were car-  
18 ried out and how effective they have been at meeting  
19 the goals described in the research proposals;

20 (4) describe what national goals, such as im-  
21 proving undergraduate science, technology, engineer-

1 ing, and mathematics education, improving kinder-  
2 garten through grade 12 science and mathematics  
3 education, promoting university-industry collabora-  
4 tion, and broadening participation of underrep-  
5 resented groups, the broader impacts criterion is  
6 best suited to promote; and

7 (5) describe what steps the Foundation is tak-  
8 ing and should take to use the broader impacts cri-  
9 terion to improve undergraduate science, technology,  
10 engineering, and mathematics education.

11 **SEC. 7023. DONATIONS.**

12 Section 11(f) of the National Science Foundation Act  
13 of 1950 (42 U.S.C. 1870(f)) is amended by inserting be-  
14 fore the semicolon “, except that funds may be donated  
15 for specific prize competitions for ‘basic research’ as de-  
16 fined in the Office of Management and Budget Circular  
17 No. A-11”.

18 **SEC. 7024. HIGH-PERFORMANCE COMPUTING AND NET-**  
19 **WORKING.**

20 (a) HIGH-PERFORMANCE COMPUTING ACT OF  
21 1991.—

1           (1) AMENDMENTS.—Title I of the High-Per-  
2           formance Computing Act of 1991 (15 U.S.C. 5511  
3           et seq.) is amended—

4                   (A) in the title heading, by striking “**AND**  
5                   **THE NATIONAL RESEARCH AND**  
6                   **EDUCATION NETWORK**” and inserting  
7                   “**RESEARCH AND DEVELOPMENT**”;

8                   (B) in section 101(a) (15 U.S.C.  
9                   5511(a))—

10                           (i) by striking subparagraphs (A) and  
11                           (B) of paragraph (1) and inserting the fol-  
12                           lowing:

13                           “(A) provide for long-term basic and applied re-  
14                           search on high-performance computing, including  
15                           networking;

16                           “(B) provide for research and development on,  
17                           and demonstration of, technologies to advance the  
18                           capacity and capabilities of high-performance com-  
19                           puting and networking systems, and related soft-  
20                           ware;

1           “(C) provide for sustained access by the re-  
2           search community throughout the United States to  
3           high-performance computing and networking sys-  
4           tems that are among the most advanced in the world  
5           in terms of performance in solving scientific and en-  
6           gineering problems, including provision for technical  
7           support for users of such systems;

8           “(D) provide for widely dispersed efforts to in-  
9           crease software availability, productivity, capability,  
10          security, portability, and reliability;

11          “(E) provide for high-performance networks, in-  
12          cluding experimental testbed networks, to enable re-  
13          search and development on, and demonstration of,  
14          advanced applications enabled by such networks;

15          “(F) provide for computational science and en-  
16          gineering research on mathematical modeling and al-  
17          gorithms for applications in all fields of science and  
18          engineering;

19          “(G) provide for the technical support of, and  
20          research and development on, high-performance

1 computing systems and software required to address  
2 Grand Challenges;

3 “(H) provide for educating and training addi-  
4 tional undergraduate and graduate students in soft-  
5 ware engineering, computer science, computer and  
6 network security, applied mathematics, library and  
7 information science, and computational science; and

8 “(I) provide for improving the security of com-  
9 puting and networking systems, including Federal  
10 systems, including providing for research required to  
11 establish security standards and practices for these  
12 systems.”;

13 (ii) by striking paragraph (2) and re-  
14 designating paragraphs (3) and (4) as  
15 paragraphs (2) and (3), respectively;

16 (iii) in paragraph (2), as redesignated  
17 by clause (ii)—

18 (I) by striking subparagraph (B);

19 (II) by redesignating subpara-  
20 graphs (A) and (C) as subparagraphs

21 (D) and (F), respectively;



1 (III) by inserting before subpara-  
2 graph (D), as redesignated by sub-  
3 clause (II), the following:

4 “(A) establish the goals and priorities for Fed-  
5 eral high-performance computing research, develop-  
6 ment, networking, and other activities;

7 “(B) establish Program Component Areas that  
8 implement the goals established under subparagraph  
9 (A), and identify the Grand Challenges that the Pro-  
10 gram should address;

11 “(C) provide for interagency coordination of  
12 Federal high-performance computing research, devel-  
13 opment, networking, and other activities undertaken  
14 pursuant to the Program;” and

15 (IV) by inserting after subpara-  
16 graph (D), as redesignated by sub-  
17 clause (II) of this clause, the fol-  
18 lowing:

19 “(E) develop and maintain a research, develop-  
20 ment, and deployment roadmap covering all States  
21 and regions for the provision of high-performance

1 computing and networking systems under paragraph  
2 (1)(C); and”; and

3 (iv) in paragraph (3), as so redesign-  
4 nated by clause (ii) of this subparagraph—

5 (I) by striking “paragraph  
6 (3)(A)” and inserting “paragraph  
7 (2)(D)”;

8 (II) by amending subparagraph  
9 (A) to read as follows:

10 “(A) provide a detailed description of the Pro-  
11 gram Component Areas, including a description of  
12 any changes in the definition of or activities under  
13 the Program Component Areas from the preceding  
14 report, and the reasons for such changes, and a de-  
15 scription of Grand Challenges addressed under the  
16 Program;”;

17 (III) in subparagraph (C), by  
18 striking “specific activities” and all  
19 that follows through “the Network”  
20 and inserting “each Program Compo-  
21 nent Area”;

1 (IV) in subparagraph (D), by in-  
2 serting “, and for each Program Com-  
3 ponent Area,” after “participating in  
4 the Program”;

5 (V) in subparagraph (D), by  
6 striking “applies;” and inserting “ap-  
7 plies; and”;

8 (VI) by striking subparagraph  
9 (E) and redesignating subparagraph  
10 (F) as subparagraph (E); and

11 (VII) in subparagraph (E), as re-  
12 designated by subclause (VI), by in-  
13 serting “and the extent to which the  
14 Program incorporates the rec-  
15 ommendations of the advisory com-  
16 mittee established under subsection  
17 (b)” after “for the Program”;

18 (C) by striking subsection (b) of section  
19 101 (15 U.S.C. 5511) and inserting the fol-  
20 lowing:

1           “(b) ADVISORY COMMITTEE.—(1) The President  
2 shall establish an advisory committee on high-performance  
3 computing, consisting of geographically dispersed non-  
4 Federal members, including representatives of the re-  
5 search, education, and library communities, network and  
6 related software providers, and industry representatives in  
7 the Program Component Areas, who are specially qualified  
8 to provide the Director with advice and information on  
9 high-performance computing. The recommendations of the  
10 advisory committee shall be considered in reviewing and  
11 revising the Program. The advisory committee shall pro-  
12 vide the Director with an independent assessment of—

13           “(A) progress made in implementing the Pro-  
14 gram;

15           “(B) the need to revise the Program;

16           “(C) the balance between the components of the  
17 Program, including funding levels for the Program  
18 Component Areas;

19           “(D) whether the research and development un-  
20 dertaken pursuant to the Program is helping to  
21 maintain United States leadership in high-perform-

1       ance computing, networking technology, and related  
2       software; and

3               “(E) other issues identified by the Director.

4       “(2) In addition to the duties outlined in paragraph  
5 (1), the advisory committee shall conduct periodic evalua-  
6 tions of the funding, management, coordination, imple-  
7 mentation, and activities of the Program. The advisory  
8 committee shall report not less frequently than once every  
9 2 fiscal years to the Committee on Science and Technology  
10 of the House of Representatives and the Committee on  
11 Commerce, Science, and Transportation of the Senate on  
12 its findings and recommendations. The first report shall  
13 be due within 1 year after the date of enactment of the  
14 America COMPETES Act.

15       “(3) Section 14 of the Federal Advisory Committee  
16 Act shall not apply to the advisory committee established  
17 under this subsection.”; and

18               (D) in section 101(e) (15 U.S.C.  
19               5511(e))—

1 (i) in paragraph (1)(A), by striking  
2 “Program or” and inserting “Program  
3 Component Areas or”; and

4 (ii) in paragraph (2), by striking  
5 “subsection (a)(3)(A)” and inserting “sub-  
6 section (a)(2)(D)”.

7 (2) DEFINITIONS.—Section 4 of the High-Per-  
8 formance Computing Act of 1991 (15 U.S.C. 5503)  
9 is amended—

10 (A) in paragraph (2), by inserting “and  
11 multidisciplinary teams of researchers” after  
12 “high-performance computing resources”;

13 (B) in paragraph (3)—

14 (i) by striking “scientific  
15 workstations,”;

16 (ii) by striking “(including vector  
17 supercomputers and large scale parallel  
18 systems)”;

19 (iii) by striking “and applications”  
20 and inserting “applications”; and

1 (iv) by inserting “, and the manage-  
2 ment of large data sets” after “systems  
3 software”;

4 (C) in paragraph (4), by striking “packet  
5 switched”;

6 (D) by striking “and” at the end of para-  
7 graph (5);

8 (E) by striking the period at the end of  
9 paragraph (6) and inserting “; and”; and

10 (F) by adding at the end the following:

11 “(7) ‘Program Component Areas’ means the  
12 major subject areas under which related individual  
13 projects and activities carried out under the Pro-  
14 gram are grouped.”.

15 (3) CONFORMING AMENDMENT.—Section 1(26)  
16 of the Act entitled “An Act to prevent the elimi-  
17 nation of certain reports”, approved November 28,  
18 2001 (31 U.S.C. 3113 note) is amended—

19 (A) by striking “101(a)(3)” and inserting  
20 “101(a)(2)”; and

1 (B) by striking “(15 U.S.C. 5511(a)(3))”  
2 and inserting “(15 U.S.C. 5511(a)(2))”.

3 (b) ADVANCED INFORMATION AND COMMUNICATIONS  
4 TECHNOLOGY RESEARCH.—

5 (1) IN GENERAL.—As part of the Program de-  
6 scribed in title I of the High-Performance Com-  
7 puting Act of 1991 (15 U.S.C. 5511 et seq.), the  
8 Foundation shall support basic research related to  
9 advanced information and communications tech-  
10 nologies that will contribute to enhancing or facili-  
11 tating the availability and affordability of advanced  
12 communications services for all people of the United  
13 States. Areas of research to be supported may in-  
14 clude research on—

15 (A) affordable broadband access, including  
16 wireless technologies;

17 (B) network security and reliability;

18 (C) communications interoperability;

19 (D) networking protocols and architec-  
20 tures, including resilience to outages or attacks;

21 (E) trusted software;



- 1 (F) privacy;
- 2 (G) nanoelectronics for communications
- 3 applications;
- 4 (H) low-power communications electronics;
- 5 (I) implementation of equitable access to
- 6 national advanced fiber optic research and edu-
- 7 cational networks in noncontiguous States; and
- 8 (J) such other related areas as the Direc-
- 9 tor finds appropriate.

10 (2) CENTERS.—The Director shall award

11 multiyear grants, subject to the availability of appro-

12 priations and on a merit-reviewed competitive basis,

13 to institutions of higher education, nonprofit re-

14 search institutions affiliated with institutions of

15 higher education, or consortia of either type of insti-

16 tution to establish multidisciplinary Centers for

17 Communications Research. The purpose of the Cen-

18 ters shall be to generate innovative approaches to

19 problems in information and communications tech-

20 nology research, including the research areas de-

21 scribed in paragraph (1). Institutions of higher edu-

1 cation, nonprofit research institutions affiliated with  
2 institutions of higher education, or consortia receiv-  
3 ing such grants may partner with 1 or more govern-  
4 ment laboratories, for-profit entities, or other insti-  
5 tutions of higher education or nonprofit research in-  
6 stitutions.

7 (3) FUNDING ALLOCATION.—The Director shall  
8 increase funding for the basic research activities de-  
9 scribed in paragraph (1), which shall include support  
10 for the Centers described in paragraph (2), in pro-  
11 portion to the increase in the total amount appro-  
12 priated to the Foundation for research and related  
13 activities for the fiscal years 2008 through 2010.

14 (4) REPORT TO CONGRESS.—The Director shall  
15 transmit to Congress, as part of the President’s an-  
16 nual budget submission under section 1105 of title  
17 31, United States Code, a report on the amounts al-  
18 located for support of research under this subsection  
19 for the fiscal year during which such report is sub-  
20 mitted and the levels proposed for the fiscal year  
21 with respect to which the budget submission applies.

1 **SEC. 7025. SCIENCE, TECHNOLOGY, ENGINEERING, AND**  
2 **MATHEMATICS TALENT EXPANSION PRO-**  
3 **GRAM.**

4 (a) AMENDMENTS.—Section 8(7) of the National  
5 Science Foundation Authorization Act of 2002 is amend-  
6 ed—

7 (1) in subparagraph (A), by striking “competi-  
8 tive, merit-based” and all that follows through “in  
9 recent years.” and inserting “competitive, merit-  
10 based multiyear grants for eligible applicants to im-  
11 prove undergraduate education in science, tech-  
12 nology, engineering, and mathematics through—

13 “(i) the creation of programs to increase  
14 the number of students studying toward and  
15 completing associate’s or bachelor’s degrees in  
16 science, technology, engineering, and mathe-  
17 matics, particularly in fields that have faced de-  
18 clining enrollment in recent years; and

19 “(ii) the creation of not more than 5 cen-  
20 ters (in this paragraph referred to as ‘Centers’)  
21 to increase the number of students completing

1           undergraduate courses in science, technology,  
2           engineering, and mathematics, including the  
3           number of nonmajors, and to improve student  
4           academic achievement in those courses, by de-  
5           veloping—

6                       “(I) undergraduate educational mate-  
7                       rial, including curricula and courses of  
8                       study;

9                       “(II) teaching methods for under-  
10                      graduate courses; and

11                     “(III) methods to improve the profes-  
12                     sional development of professors and teach-  
13                     ing assistants who teach undergraduate  
14                     courses.

15           Grants made under clause (ii) shall be awarded  
16           jointly through the Education and Human Re-  
17           sources Directorate and at least 1 research direc-  
18           torate of the Foundation.”;

19                     (2) by amending subparagraph (B) to read as  
20           follows:

1           “(B) In selecting projects under subparagraph  
2           (A)(i), the Director shall strive to increase the num-  
3           ber of students studying toward and completing as-  
4           sociate’s or bachelor’s degrees, concentrations, or  
5           certificates in science, technology, engineering, or  
6           mathematics by giving priority to programs that  
7           heavily recruit individuals who are—

8                   “(i) individuals identified in section 33 or  
9                   34 of the Science and Engineering Equal Op-  
10                  portunities Act (42 U.S.C. 1885a or 1885b); or

11                  “(ii) graduates of a public secondary  
12                  school that—

13                   “(I) is among the highest 25 percent  
14                   of schools served by the local educational  
15                   agency that serves the school, in terms of  
16                   the percentage of students from families  
17                   with incomes below the poverty line, as de-  
18                   fined in section 673(2) of the Community  
19                   Services Block Grant Act (42 U.S.C.  
20                   9902(2)), applicable to a family of the size  
21                   involved; or

1                   “(II) is designated with a school locale  
2                   code of 41, 42, or 43, as determined by the  
3                   Secretary of Education.”;

4                   (3) by striking subparagraph (C) and inserting  
5                   the following:

6                   “(C)(i) The types of projects the Foundation  
7                   may support under subparagraph (A)(i) include  
8                   those programs that—

9                   “(I) promote high quality—

10                   “(aa) interdisciplinary teaching;

11                   “(bb) undergraduate-conducted re-  
12                   search;

13                   “(cc) mentor relationships for stu-  
14                   dents, especially underrepresented minority  
15                   and female science, technology, engineer-  
16                   ing, and mathematics students;

17                   “(dd) bridge programs that enable  
18                   students at community colleges to matricu-  
19                   late directly into baccalaureate science,  
20                   technology, engineering, or mathematics  
21                   programs;

1                   “(ee) internships carried out in part-  
2                   nership with industry;

3                   “(ff) innovative uses of digital tech-  
4                   nologies, particularly at institutions of  
5                   higher education that serve high numbers  
6                   or percentages of economically disadvan-  
7                   taged students; and

8                   “(gg) bridge programs that enable  
9                   underrepresented minority and female sec-  
10                  ondary school students to obtain extra  
11                  science, technology, engineering, and math-  
12                  ematics instruction prior to entering an in-  
13                  stitution of higher education;

14                  “(II) finance summer internships for  
15                  science, technology, engineering, and mathe-  
16                  matics undergraduate students; and

17                  “(III) conduct outreach programs that pro-  
18                  vide secondary school students and their  
19                  science, technology, engineering, and mathe-  
20                  matics teachers opportunities to increase the

1 students' and teachers' exposure to engineering  
2 and technology.

3 “(ii) The types of activities the Foundation may  
4 support under subparagraph (A)(ii) include—

5 “(I) creating model curricula and labora-  
6 tory programs;

7 “(II) developing and demonstrating re-  
8 search-based instructional methods and tech-  
9 nologies;

10 “(III) developing methods to train grad-  
11 uate students and faculty to be more effective  
12 teachers of undergraduates;

13 “(IV) conducting programs to disseminate  
14 curricula, instructional methods, or training  
15 methods to faculty at the grantee institutions  
16 and at other institutions;

17 “(V) conducting assessments of the effec-  
18 tiveness of the Center at accomplishing the  
19 goals described in subparagraph (A)(ii); and



1                   “(VI) conducting any other activities the  
2                   Director determines will accomplish the goals  
3                   described in subparagraph (A)(ii).”;

4                   (4) in subparagraph (D)(i), by striking “under  
5                   this paragraph” and inserting “under subparagraph  
6                   (A)(i)”;

7                   (5) in subparagraph (D)(ii), by striking “under  
8                   this paragraph” and inserting “under subparagraph  
9                   (A)(i)”;

10                  (6) after subparagraph (D)(iii), by adding at  
11                  the end the following:

12                  “(iv) A grant under subparagraph (A)(ii) shall  
13                  be awarded for up to 5 years.”;

14                  (7) in subparagraph (E), by striking “under  
15                  this paragraph” both places it appears and inserting  
16                  “under subparagraph (A)(i)”;

17                  (8) by redesignating subparagraph (F) as sub-  
18                  paragraph (J); and

19                  (9) by inserting after subparagraph (E) the fol-  
20                  lowing:

1           “(F) Grants awarded under subparagraph  
2           (A)(ii) shall be carried out by a department or de-  
3           partments of science, technology, engineering, or  
4           mathematics at institutions of higher education (or  
5           a consortia thereof), which may partner with the de-  
6           partment, college, or school of education at the insti-  
7           tution. Applications for awards under subparagraph  
8           (A)(ii) shall be submitted to the Director at such  
9           time, in such manner, and containing such informa-  
10          tion as the Director may require. At a minimum, the  
11          application shall include—

12                   “(i) a description of the activities to be  
13                   carried out by the Center;

14                   “(ii) a plan for disseminating programs re-  
15                   lated to the activities carried out by the Center  
16                   to faculty at the grantee institution and at  
17                   other institutions;

18                   “(iii) an estimate of the number of faculty,  
19                   graduate students (if any), and undergraduate  
20                   students who will be affected by the activities  
21                   carried out by the Center; and

1                   “(iv) a plan for assessing the effectiveness  
2                   of the Center at accomplishing the goals de-  
3                   scribed in subparagraph (A)(ii).

4                   “(G) In evaluating the applications submitted  
5                   under subparagraph (F), the Director shall consider,  
6                   at a minimum—

7                   “(i) the ability of the applicant to effec-  
8                   tively carry out the proposed activities, includ-  
9                   ing the dissemination activities described in  
10                  subparagraph (C)(ii)(IV); and

11                  “(ii) the extent to which the faculty, staff,  
12                  and administrators of the applicant institution  
13                  are committed to improving undergraduate  
14                  science, technology, engineering, and mathe-  
15                  matics education.

16                  “(H) In awarding grants under subparagraph  
17                  (A)(ii), the Director shall ensure that a wide variety  
18                  of science, technology, engineering, and mathematics  
19                  fields and types of institutions of higher education,  
20                  including 2-year colleges and minority-serving insti-  
21                  tutions, are covered, and that—

1                   “(i) at least 1 Center is housed at a Doc-  
2                   toral/Research University as defined by the  
3                   Carnegie Foundation for the Advancement of  
4                   Teaching; and

5                   “(ii) at least 1 Center is focused on im-  
6                   proving undergraduate education in an inter-  
7                   disciplinary area.

8                   “(I) The Director shall convene an annual  
9                   meeting of the awardees under this paragraph to  
10                  foster collaboration and to disseminate the results of  
11                  the Centers and the other activities funded under  
12                  this paragraph.”.

13                  (b) REPORT ON DATA COLLECTION.—Not later than  
14                  180 days after the date of enactment of this Act, the Di-  
15                  rector shall transmit to Congress a report on how the Di-  
16                  rector is determining whether current grant recipients in  
17                  the Science, Technology, Engineering, and Mathematics  
18                  Talent Expansion Program are making satisfactory  
19                  progress as required by section 8(7)(D)(ii) of the National  
20                  Science Foundation Authorization Act of 2002 and what

1 funding actions have been taken as a result of the Direc-  
2 tor's determinations.

3 **SEC. 7026. LABORATORY SCIENCE PILOT PROGRAM.**

4 (a) FINDINGS.—Congress finds the following:

5 (1) To remain competitive in science and tech-  
6 nology in the global economy, the United States  
7 must increase the number of students graduating  
8 from high school prepared to pursue postsecondary  
9 education in science, technology, engineering, and  
10 mathematics.

11 (2) There is broad agreement in the scientific  
12 community that learning science requires direct in-  
13 volvement by students in scientific inquiry and that  
14 laboratory experience is so integral to the nature of  
15 science that it must be included in every science pro-  
16 gram for every science student.

17 (3) In America's Lab Report, the National Re-  
18 search Council concluded that the current quality of  
19 laboratory experiences is poor for most students and  
20 that educators and researchers do not agree on how  
21 to define high school science laboratories or on their

1        purpose, hampering the accumulation of research on  
2        how to improve laboratories.

3            (4) The National Research Council found that  
4        schools with higher concentrations of non-Asian mi-  
5        norities and schools with higher concentrations of  
6        poor students are less likely to have adequate labora-  
7        tory facilities than other schools.

8            (5) The Government Accountability Office re-  
9        ported that 49.1 percent of schools where the minor-  
10       ity student population is greater than 50.5 percent  
11       reported not meeting functional requirements for  
12       laboratory science well or at all.

13           (6) 40 percent of those college students who left  
14       the science fields reported some problems related to  
15       high school science preparation, including lack of  
16       laboratory experience and no introduction to theo-  
17       retical or to analytical modes of thought.

18           (7) It is in the national interest for the Federal  
19       Government to invest in research and demonstration  
20       projects to improve the teaching of laboratory  
21       science in the Nation's high schools.

1 (b) GRANT PROGRAM.—Section 8(8) of the National  
2 Science Foundation Authorization Act of 2002 is amend-  
3 ed—

4 (1) by redesignating subparagraphs (A) through  
5 (F) as clauses (i) through (vi), respectively;

6 (2) by inserting “(A)” before “A program of  
7 competitive”; and

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

9 “(B) In accordance with subparagraph (A)(v),  
10 the Director shall establish a research pilot program  
11 designated as ‘Partnerships for Access to Labora-  
12 tory Science’ to award grants to partnerships to im-  
13 prove laboratories and provide instrumentation as  
14 part of a comprehensive program to enhance the  
15 quality of science, technology, engineering, and  
16 mathematics instruction at the secondary school  
17 level. Grants under this subparagraph may be used  
18 for—

19 “(i) professional development and training  
20 for teachers aligned with activities supported  
21 under section 2123 of the Elementary and Sec-

1           ondary Education Act of 1965 (20 U.S.C.  
2           6623);

3                   “(ii) purchase, rental, or leasing of equip-  
4                   ment, instrumentation, and other scientific edu-  
5                   cational materials;

6                   “(iii) development of instructional pro-  
7                   grams designed to integrate the laboratory ex-  
8                   perience with classroom instruction and to be  
9                   consistent with State mathematics and science  
10                  and, to the extent applicable, technology and  
11                  engineering, academic achievement standards;

12                  “(iv) training in laboratory safety for  
13                  school personnel;

14                  “(v) design and implementation of hands-  
15                  on laboratory experiences to encourage the in-  
16                  terest of individuals identified in section 33 or  
17                  34 of the Science and Engineering Equal Op-  
18                  portunities Act (42 U.S.C. 1885a or 1885b) in  
19                  science, technology, engineering, and mathe-  
20                  matics and help prepare such individuals to



1           pursue postsecondary studies in these fields;

2           and

3                   “(vi) assessment of the activities funded  
4           under this subparagraph.

5           “(C) Grants may be made under subparagraph  
6   (B) only to a partnership—

7                   “(i) for a project that includes significant  
8           teacher preparation and professional develop-  
9           ment components; or

10                   “(ii) that establishes that appropriate  
11           teacher preparation and professional develop-  
12           ment is being addressed, or has been addressed,  
13           through other means.

14           “(D) Grants awarded under subparagraph (B)  
15   shall be to a partnership that—

16                   “(i) includes a 2-year or 4-year degree  
17           granting institution of higher education;

18                   “(ii) includes a high need local educational  
19           agency (as defined in section 201 of the Higher  
20           Education Act of 1965);

1           “(iii) includes a business or eligible non-  
2           profit organization; and

3           “(iv) may include a State educational  
4           agency, other public agency, National Labora-  
5           tory, or community-based organization.

6           “(E) The Federal share of the cost of activities  
7           carried out using amounts from a grant under sub-  
8           paragraph (B) shall not exceed 40 percent.

9           “(F) The Director shall require grant recipients  
10          under subparagraph (B) to submit a report to the  
11          Director on the results of the project supported by  
12          the grant.”.

13          (c) REPORT.—The Director shall evaluate the effec-  
14          tiveness of activities carried out under the research pilot  
15          projects funded by the grant program established pursu-  
16          ant to the amendment made by subsection (b) in improv-  
17          ing student achievement in science, technology, engineer-  
18          ing, and mathematics. A report documenting the results  
19          of that evaluation shall be submitted to the Committee on  
20          Science and Technology of the House of Representatives  
21          and the Committee on Commerce, Science, and Transpor-

1 tation and the Committee on Health, Education, Labor,  
2 and Pensions of the Senate not later than 5 years after  
3 the date of enactment of this Act. The report shall identify  
4 best practices and materials developed and demonstrated  
5 by grant awardees.

6 (d) SUNSET.—The provisions of this section shall  
7 cease to have force or effect on the last day of fiscal year  
8 2010.

9 (e) AUTHORIZATION OF APPROPRIATIONS.—From  
10 the amounts authorized under subsections (a)(2)(B),  
11 (b)(2)(B), and (c)(2)(B) of section 7002, there are author-  
12 ized to be appropriated to carry out this section and the  
13 amendments made by this section \$5,000,000 for fiscal  
14 year 2008, and such sums as may be necessary for each  
15 of the 2 succeeding fiscal years.

16 **SEC. 7027. STUDY ON LABORATORY EQUIPMENT DONA-**  
17 **TIONS FOR SCHOOLS.**

18 Not later than 2 years after the date of enactment  
19 of this Act, the Director shall transmit a report to Con-  
20 gress examining the extent to which institutions of higher  
21 education and entities in the private sector are donating

1 used laboratory equipment to elementary schools and sec-  
2 ondary schools. The Director, in consultation with the Sec-  
3 retary of Education, shall survey institutions of higher  
4 education and entities in the private sector to determine—

5 (1) how often, how much, and what type of  
6 equipment is donated;

7 (2) what criteria or guidelines the institutions  
8 and entities are using to determine what types of  
9 equipment can be donated, what condition the equip-  
10 ment should be in, and which schools receive the  
11 equipment;

12 (3) whether the institutions and entities provide  
13 any support to, or follow-up with the schools; and

14 (4) how appropriate donations can be encour-  
15 aged.

16 **SEC. 7028. MATHEMATICS AND SCIENCE EDUCATION PART-**  
17 **NERSHIPS AMENDMENTS.**

18 Section 9 of the National Science Foundation Au-  
19 thorization Act of 2002 (42 U.S.C. 1862n) is amended—

20 (1) in subsection (a)(2)(A), by striking “a State  
21 educational agency” and inserting “the department,

1 college, or program of education at an institution of  
2 higher education, a State educational agency,”;

3 (2) by striking subparagraph (B) of subsection  
4 (a)(3) and inserting the following:

5 “(B) offering professional development  
6 programs, including—

7 “(i) teacher institutes for the 21st  
8 century, as described in paragraph (10);  
9 and

10 “(ii) academic year institutes or work-  
11 shops that—

12 “(I) are designed to strengthen  
13 the capabilities of mathematics and  
14 science teachers; and

15 “(II) may include professional  
16 development activities to prepare  
17 mathematics and science teachers to  
18 teach challenging mathematics,  
19 science, and technology college-pre-  
20 paratory courses;”;

21 (3) in subsection (a)(3)(C)—

1 (A) by inserting “and laboratory experi-  
2 ences” after “technology”; and

3 (B) by inserting “and laboratory” after  
4 “provide technical”;

5 (4) in subsection (a)(3)(I), by inserting “includ-  
6 ing the use of induction programs, as defined in sec-  
7 tion 6113(h) of the America COMPETES Act, for  
8 teachers in their first 2 years of teaching,” after  
9 “and science,”;

10 (5) by striking subparagraph (K) of section  
11 (a)(3) and inserting the following:

12 “(K) developing science, technology, engi-  
13 neering, and mathematics educational programs  
14 and materials and conducting science, tech-  
15 nology, engineering, and mathematics enrich-  
16 ment programs for students, including after-  
17 school programs and summer programs, with  
18 an emphasis on including and serving students  
19 described in subsection (b)(2)(G);”;

20 (6) in subsection (a), by adding at the end the  
21 following:

1           “(8) MENTORS FOR TEACHERS AND STUDENTS  
2           OF CHALLENGING COURSES.—Partnerships carrying  
3           out activities to prepare mathematics and science  
4           teachers to teach challenging mathematics, science,  
5           and technology college-preparatory courses in ac-  
6           cordance with paragraph (3)(B) shall encourage  
7           companies employing scientists, technologists, engi-  
8           neers, or mathematicians to provide mentors to  
9           teachers and students and provide for the coordina-  
10          tion of such mentoring activities.

11          “(9) INNOVATION.—Activities carried out in ac-  
12          cordance with paragraph (3)(H) may include the de-  
13          velopment and dissemination of curriculum tools  
14          that will help foster inventiveness and innovation.”;

15          (7) in subsection (b)(2)—

16                 (A) by redesignating subparagraphs (E)  
17                 and (F) as subparagraphs (F) and (G), respec-  
18                 tively; and

19                 (B) by inserting after subparagraph (D)  
20                 the following:

1                   “(E) the extent to which the evaluation de-  
2                   scribed in paragraph (1)(E) will be independent  
3                   and based on objective measures;”;

4                   (8) by striking paragraph (2) of subsection (c)  
5                   and inserting the following:

6                   “(2) REPORT ON EVALUATIONS.—Not later  
7                   than 4 years after the date of enactment of the  
8                   America COMPETES Act, the Director shall trans-  
9                   mit a report summarizing the evaluations required  
10                  under subsection (b)(1)(E) of grants received under  
11                  this program and describing any changes to the pro-  
12                  gram recommended as a result of these evaluations  
13                  to the Committee on Science and Technology and  
14                  the Committee on Education and Labor of the  
15                  House of Representatives and to the Committee on  
16                  Commerce, Science, and Transportation and the  
17                  Committee on Health, Education, Labor, and Pen-  
18                  sions of the Senate. Such report shall be made wide-  
19                  ly available to the public.”; and

20                  (9) by adding at the end the following:

21                  “(d) DEFINITIONS.—In this section—





1                   “(ii) be science, technology, engineer-  
2                   ing, and mathematics focused institutes  
3                   that provide professional development to  
4                   elementary school and secondary school  
5                   teachers;

6                   “(iii) serve teachers who—

7                   “(I) are considered highly quali-  
8                   fied (as defined in section 9101 of the  
9                   Elementary and Secondary Education  
10                  Act of 1965);

11                  “(II) teach high-need subjects in  
12                  science, technology, engineering, or  
13                  mathematics; and

14                  “(III) teach in high-need schools  
15                  (as described in section 1114(a)(1) of  
16                  the Elementary and Secondary Edu-  
17                  cation Act of 1965);

18                  “(iv) focus on the priorities developed  
19                  by the Director in consultation with a  
20                  broad group of relevant educational organi-  
21                  zations;

1                   “(v) be content-based and build on  
2 school year curricula that are experiment-  
3 oriented, content-based, and grounded in  
4 current research;

5                   “(vi) ensure that the pedagogy compo-  
6 nent is designed around specific strategies  
7 that are relevant to teaching the subject  
8 and content on which teachers are being  
9 trained, which may include training teach-  
10 ers in the essential components of reading  
11 instruction for adolescents in order to im-  
12 prove student reading skills within the sub-  
13 ject areas of science, technology, engineer-  
14 ing, and mathematics;

15                   “(vii) be a multiyear program that is  
16 conducted for a period of not less than 2  
17 weeks per year;

18                   “(viii) provide for direct interaction  
19 between participants in and faculty of the  
20 teacher institute;

1                   “(ix) have a component that includes  
2                   the use of the Internet;

3                   “(x) provide for followup training in  
4                   the classroom during the academic year for  
5                   a period of not less than 3 days, which  
6                   may or may not be consecutive, for partici-  
7                   pants in the teacher institute, except that  
8                   for teachers in rural local educational  
9                   agencies, the followup training may be pro-  
10                  vided through the Internet;

11                  “(xi) provide teachers participating in  
12                  the teacher institute with travel expense  
13                  reimbursement and classroom materials re-  
14                  lated to the teacher institute, and may in-  
15                  clude providing stipends as necessary; and

16                  “(xii) establish a mechanism to pro-  
17                  vide supplemental support during the aca-  
18                  demic year for teacher institute partici-  
19                  pants to apply the knowledge and skills  
20                  gained at the teacher institute.

1           “(B) OPTIONAL MEMBERS OF THE PART-  
2           NERSHIP.—In addition to the partnership re-  
3           quirement under paragraph (2), an institution  
4           of higher education or eligible nonprofit organi-  
5           zation (or consortium) desiring a grant for a  
6           teacher institute for the 21st century may also  
7           partner with a teacher organization, museum,  
8           or educational partnership organization.”.

9   **SEC. 7030. ROBERT NOYCE TEACHER SCHOLARSHIP PRO-**  
10           **GRAM.**

11           Section 10 of the National Science Foundation Au-  
12           thorization Act of 2002 (42 U.S.C. 1862n–1) is amended  
13           to read as follows:

14   **“SEC. 10. ROBERT NOYCE TEACHER SCHOLARSHIP PRO-**  
15           **GRAM.**

16           “(a) SCHOLARSHIP PROGRAM.—

17           “(1) IN GENERAL.—The Director shall carry  
18           out a program to award grants to eligible entities to  
19           recruit and train mathematics and science teachers  
20           and to provide scholarships and stipends to individ-  
21           uals participating in the program. Such program

1 shall be known as the ‘Robert Noyce Teacher Schol-  
2 arship Program’.

3 “(2) MERIT REVIEW.—Grants shall be provided  
4 under this section on a competitive, merit-reviewed  
5 basis.

6 “(3) USE OF GRANTS.—A grant provided under  
7 this section shall be used by the eligible entity—

8 “(A) to develop and implement a program  
9 to recruit and prepare undergraduate students  
10 majoring in science, technology, engineering,  
11 and mathematics at the eligible entity (and par-  
12 ticipating institutions of higher education of the  
13 consortium, if applicable) to become qualified as  
14 mathematics and science teachers, through—

15 “(i) administering scholarships in ac-  
16 cordance with subsection (c);

17 “(ii) offering academic courses and  
18 early clinical teaching experiences designed  
19 to prepare students participating in the  
20 program to teach in elementary schools  
21 and secondary schools, including such

1 preparation as is necessary to meet re-  
2 quirements for teacher certification or li-  
3 censing;

4 “(iii) offering programs to students  
5 participating in the program, both before  
6 and after the students receive their bacca-  
7 laurate degree, to enable the students to  
8 become better mathematics and science  
9 teachers, to fulfill the service requirements  
10 of this section, and to exchange ideas with  
11 others in the students’ fields; and

12 “(iv) providing summer internships  
13 for freshman and sophomore students par-  
14 ticipating in the program; or

15 “(B) to develop and implement a program  
16 to recruit and prepare science, technology, engi-  
17 neering, or mathematics professionals to be-  
18 come qualified as mathematics and science  
19 teachers, through—

20 “(i) administering stipends in accord-  
21 ance with subsection (d);

1                   “(ii) offering academic courses and  
2                   clinical teaching experiences designed to  
3                   prepare stipend recipients to teach in ele-  
4                   mentary schools and secondary schools  
5                   served by a high need local educational  
6                   agency, including such preparation as is  
7                   necessary to meet requirements for teacher  
8                   certification or licensing; and

9                   “(iii) offering programs to stipend re-  
10                  cipients, both during and after matricula-  
11                  tion in the program for which the stipend  
12                  is received, to enable recipients to become  
13                  better mathematics and science teachers,  
14                  to fulfill the service requirements of this  
15                  section, and to exchange ideas with others  
16                  in the students’ fields.

17                  “(4) ELIGIBILITY REQUIREMENT.—

18                  “(A) IN GENERAL.—To be eligible to re-  
19                  ceive a grant under this section, an eligible enti-  
20                  ty shall ensure that specific faculty members  
21                  and staff from the science, technology, engi-



1           neering, and mathematics departments and spe-  
2           cific education faculty of the eligible entity (and  
3           participating institutions of higher education of  
4           the consortium, if applicable) are designated to  
5           carry out the development and implementation  
6           of the program.

7           “(B) INCLUSION OF MASTER TEACHERS.—  
8           An eligible entity (and participating institutions  
9           of higher education of the consortium, if appli-  
10          cable) receiving a grant under this section may  
11          also include master teachers in the development  
12          of the pedagogical content of the program and  
13          in the supervision of students participating in  
14          the program in their clinical teaching experi-  
15          ences.

16          “(C) ACTIVE PARTICIPANTS.—No eligible  
17          entity (or participating institution of higher  
18          education of the consortium, if applicable) shall  
19          be eligible for a grant under this section unless  
20          faculty from the science, technology, engineer-  
21          ing, and mathematics departments of the eligi-

1           ble entity (and participating institutions of  
2           higher education of the consortium, if applica-  
3           ble) are active participants in the program.

4           “(5) AWARDS.—In awarding grants under this  
5           section, the Director shall ensure that the eligible  
6           entities (and participating institutions of higher edu-  
7           cation of the consortia, if applicable) represent a va-  
8           riety of types of institutions of higher education. In  
9           support of this goal, the Director shall broadly dis-  
10          seminate information about when and how to apply  
11          for grants under this section, including by con-  
12          ducting outreach to—

13                   “(A) historically Black colleges and univer-  
14                   sities that are part B institutions, as defined in  
15                   section 322(2) of the Higher Education Act of  
16                   1965 (20 U.S.C. 1061(2)); and

17                   “(B) minority institutions, as defined in  
18                   section 365(3) of the Higher Education Act of  
19                   1965 (20 U.S.C. 1067k(3)).

20           “(6) SUPPLEMENT NOT SUPPLANT.—Grant  
21          funds provided under this section shall be used to

1 supplement, and not supplant, other Federal or  
2 State funds available for the type of activities sup-  
3 ported by the grant.

4 “(b) SELECTION PROCESS.—

5 “(1) APPLICATION.—An eligible entity seeking  
6 funding under this section shall submit an applica-  
7 tion to the Director at such time, in such manner,  
8 and containing such information as the Director  
9 may require. The application shall include, at a min-  
10 imum—

11 “(A) in the case of an applicant that is  
12 submitting an application on behalf of a consor-  
13 tium of institutions of higher education, a de-  
14 scription of the participating institutions of  
15 higher education and the roles and responsibil-  
16 ities of each such institution;

17 “(B) a description of the program that the  
18 applicant intends to operate, including the num-  
19 ber of scholarships and summer internships or  
20 the size and number of stipends the applicant  
21 intends to award, the type of activities proposed

1           for the recruitment of students to the program,  
2           and the selection process that will be used in  
3           awarding the scholarships or stipends;

4           “(C) evidence that the applicant has the  
5           capability to administer the program in accord-  
6           ance with the provisions of this section, which  
7           may include a description of any existing pro-  
8           grams at the applicant eligible entity (and par-  
9           ticipating institutions of higher education of the  
10          consortium, if applicable) that are targeted to  
11          the education of mathematics and science  
12          teachers and the number of teachers graduated  
13          annually from such programs;

14          “(D) a description of the academic courses  
15          and clinical teaching experiences required under  
16          subparagraphs (A)(ii) and (B)(ii) of subsection  
17          (a)(3), as applicable, including—

18                 “(i) a description of the under-  
19                 graduate program that will enable a stu-  
20                 dent to graduate within 5 years with a  
21                 major in science, technology, engineering,

1 or mathematics and to obtain teacher cer-  
2 tification or licensing;

3 “(ii) a description of the clinical  
4 teaching experiences proposed; and

5 “(iii) evidence of agreements between  
6 the applicant and the schools or local edu-  
7 cational agencies that are identified as the  
8 locations at which clinical teaching experi-  
9 ences will occur;

10 “(E) a description of the programs re-  
11 quired under subparagraphs (A)(iii) and (B)(iii)  
12 of subsection (a)(3), including activities to as-  
13 sist new teachers in fulfilling the teachers’ serv-  
14 ice requirements under this section;

15 “(F) an identification of the applicant eli-  
16 gible entity’s science, technology, engineering,  
17 and mathematics faculty and its education fac-  
18 ulty (and such faculty of participating institu-  
19 tions of higher education of the consortium, if  
20 applicable) who will carry out the development

1 and implementation of the program as required  
2 under subsection (a)(4); and

3 “(G) a description of the process the appli-  
4 cant will use to fulfill the requirements of sub-  
5 section (f).

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

9 “(A) the ability of the applicant (and the  
10 participating institutions of higher education of  
11 the consortium, if applicable) to effectively  
12 carry out the program;

13 “(B) the extent to which the applicant’s  
14 science, technology, engineering, and mathe-  
15 matics faculty and its education faculty (and  
16 such faculty of participating institutions of  
17 higher education of the consortium, if applica-  
18 ble) have worked or will work collaboratively to  
19 design new or revised curricula that recognize  
20 the specialized pedagogy required to teach  
21 science, technology, engineering, and mathe-

1           matics effectively in elementary schools and sec-  
2           ondary schools;

3           “(C) the extent to which the applicant  
4           (and the participating institutions of higher  
5           education of the consortium, if applicable) is  
6           committed to making the program a central or-  
7           ganizational focus;

8           “(D) the degree to which the proposed pro-  
9           gramming will enable scholarship or stipend re-  
10          cipients to become successful mathematics and  
11          science teachers;

12          “(E) the number and academic qualifica-  
13          tions of the students who will be served by the  
14          program; and

15          “(F) the ability of the applicant (and the  
16          participating institutions of higher education of  
17          the consortium, if applicable) to recruit stu-  
18          dents who would otherwise not pursue a career  
19          in teaching in elementary schools or secondary  
20          schools and students who are individuals identi-  
21          fied in section 33 or 34 of the Science and En-

1           gineering Equal Opportunities Act (42 U.S.C.  
2           1885a or 1885b).

3           “(c) SCHOLARSHIP REQUIREMENTS.—

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

6                   “(A) are majoring in science, technology,  
7                   engineering, or mathematics; and

8                   “(B) have attained at least junior status in  
9                   a baccalaureate degree program.

10           “(2) SELECTION.—Individuals shall be selected  
11           to receive scholarships primarily on the basis of aca-  
12           demic merit, with consideration given to financial  
13           need and to the goal of promoting the participation  
14           of individuals identified in section 33 or 34 of the  
15           Science and Engineering Equal Opportunities Act  
16           (42 U.S.C. 1885a or 1885b).

17           “(3) AMOUNT.—The Director shall establish for  
18           each year the amount to be awarded for scholarships  
19           under this section for that year, which shall be not  
20           less than \$10,000 per year, except that no individual  
21           shall receive for any year more than the cost of at-



1       tendance at that individual’s institution. Full-time  
2       students may receive annual scholarships through  
3       the completion of a baccalaureate degree program,  
4       not to exceed a maximum of 3 years. Part-time stu-  
5       dents may receive scholarships that are prorated ac-  
6       cording to such students’ enrollment status, not to  
7       exceed 6 years of scholarship support.

8           “(4) SERVICE OBLIGATION.—If an individual  
9       receives a scholarship under this section, such indi-  
10      vidual shall be required to complete, within 8 years  
11      after graduation from the baccalaureate degree pro-  
12      gram for which the scholarship was awarded, 2  
13      years of service as a mathematics or science teacher  
14      for each full scholarship award received, with a max-  
15      imum service requirement of 6 years. Service re-  
16      quired under this paragraph shall be performed in a  
17      high need local educational agency.

18      “(d) STIPENDS.—

19           “(1) IN GENERAL.—Stipends under this section  
20      shall be available only to science, technology, engi-  
21      neering, or mathematics professionals who, while re-

1       ceiving the stipend, are enrolled in a program estab-  
2       lished under subsection (a)(3)(B).

3           “(2) SELECTION.—Individuals shall be selected  
4       to receive stipends under this section primarily on  
5       the basis of academic merit and professional achieve-  
6       ment, with consideration given to financial need and  
7       to the goal of promoting the participation of individ-  
8       uals identified in section 33 or 34 of the Science and  
9       Engineering Equal Opportunities Act (42 U.S.C.  
10      1885a or 1885b).

11          “(3) AMOUNT AND DURATION.—Stipends under  
12      this section shall be not less than \$10,000 per year,  
13      except that no individual shall receive for any year  
14      more than the cost of attendance at such individ-  
15      ual’s institution. Individuals may receive a maximum  
16      of 1 year of stipend support, except that if an indi-  
17      vidual is enrolled in a part-time program, such  
18      amount shall be prorated according to the length of  
19      the program.

20          “(4) SERVICE OBLIGATION.—If an individual  
21      receives a stipend under this section, such individual

1 shall be required to complete, within 4 years after  
2 graduation from the program for which the stipend  
3 was awarded, 2 years of service as a mathematics or  
4 science teacher. Service required under this para-  
5 graph shall be performed in a high need local edu-  
6 cational agency.

7 “(e) CONDITIONS OF SUPPORT.—As a condition of  
8 acceptance of a scholarship or stipend under this section,  
9 a recipient of a scholarship or stipend shall enter into an  
10 agreement with the eligible entity—

11 “(1) accepting the terms of the scholarship or  
12 stipend pursuant to subsection (c) or subsection (d);

13 “(2) agreeing to provide the eligible entity with  
14 annual certification of employment and up-to-date  
15 contact information and to participate in surveys  
16 conducted by the eligible entity as part of an ongo-  
17 ing assessment program; and

18 “(3) establishing that if the service obligation  
19 required under this section is not completed, all or  
20 a portion of the scholarship or stipend received

1 under this section shall be repaid in accordance with  
2 subsection (g).

3 “(f) COLLECTION FOR NONCOMPLIANCE.—

4 “(1) MONITORING COMPLIANCE.—An eligible  
5 entity receiving a grant under this section shall, as  
6 a condition of participating in the program, enter  
7 into an agreement with the Director to monitor the  
8 compliance of scholarship or stipend recipients with  
9 their respective service requirements.

10 “(2) COLLECTION OF REPAYMENT.—

11 “(A) IN GENERAL.—In the event that a  
12 scholarship or stipend recipient is required to  
13 repay the scholarship or stipend under sub-  
14 section (g), the eligible entity shall—

15 “(i) be responsible for determining the  
16 repayment amounts and for notifying the  
17 recipient and the Director of the amount  
18 owed; and

19 “(ii) collect such repayment amount  
20 within a period of time as determined  
21 under the agreement described in para-

1 graph (1), or the repayment amount shall  
2 be treated as a loan in accordance with  
3 subparagraph (C).

4 “(B) RETURNED TO TREASURY.—Except  
5 as provided in subparagraph (C), any such re-  
6 payment shall be returned to the Treasury of  
7 the United States.

8 “(C) RETAIN PERCENTAGE.—An eligible  
9 entity may retain a percentage of any repay-  
10 ment the eligible entity collects to defray ad-  
11 ministrative costs associated with the collection.  
12 The Director shall establish a single, fixed per-  
13 centage that will apply to all eligible entities.

14 “(g) FAILURE TO COMPLETE SERVICE OBLIGA-  
15 TION.—

16 “(1) GENERAL RULE.—If an individual who has  
17 received a scholarship or stipend under this sec-  
18 tion—

19 “(A) fails to maintain an acceptable level  
20 of academic standing in the educational institu-

1           tion in which the individual is enrolled, as de-  
2           termined by the Director;

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

5           “(C) withdraws from the program for  
6           which the award was made before the comple-  
7           tion of such program;

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

11          “(E) fails to fulfill the service obligation of  
12          the individual under this section,  
13          such individual shall be liable to the United States  
14          as provided in paragraph (2).

15          “(2) AMOUNT OF REPAYMENT.—

16          “(A) LESS THAN ONE YEAR OF SERVICE.—  
17          If a circumstance described in paragraph (1)  
18          occurs before the completion of 1 year of a  
19          service obligation under this section, the total  
20          amount of awards received by the individual  
21          under this section shall be repaid or such

1 amount shall be treated as a loan to be repaid  
2 in accordance with subparagraph (C).

3 “(B) MORE THAN ONE YEAR OF SERV-  
4 ICE.—If a circumstance described in subpara-  
5 graph (D) or (E) of paragraph (1) occurs after  
6 the completion of 1 year of a service obligation  
7 under this section—

8 “(i) for a scholarship recipient, the  
9 total amount of scholarship awards re-  
10 ceived by the individual under this section,  
11 reduced by the ratio of the number of  
12 years of service completed divided by the  
13 number of years of service required, shall  
14 be repaid or such amount shall be treated  
15 as a loan to be repaid in accordance with  
16 subparagraph (C); and

17 “(ii) for a stipend recipient,  $\frac{1}{2}$  of the  
18 total amount of stipends received by the  
19 individual under this section shall be re-  
20 paid or such amount shall be treated as a

1            loan to be repaid in accordance with sub-  
2            paragraph (C).

3            “(C) REPAYMENTS.—The loans described  
4            under subparagraphs (A) and (B) shall be pay-  
5            able to the Federal Government, consistent with  
6            the provisions of part B or D of title IV of the  
7            Higher Education Act of 1965, and shall be  
8            subject to repayment in accordance with terms  
9            and conditions specified by the Director (in con-  
10           sultation with the Secretary of Education) in  
11           regulations promulgated to carry out this para-  
12           graph.

13           “(3) EXCEPTIONS.—The Director may provide  
14           for the partial or total waiver or suspension of any  
15           service or payment obligation by an individual under  
16           this section whenever compliance by the individual  
17           with the obligation is impossible or would involve ex-  
18           treme hardship to the individual, or if enforcement  
19           of such obligation with respect to the individual  
20           would be unconscionable.



1       “(h) DATA COLLECTION.—An eligible entity receiv-  
2 ing a grant under this section shall supply to the Director  
3 any relevant statistical and demographic data on scholar-  
4 ship and stipend recipients the Director may request, in-  
5 cluding information on employment required under this  
6 section.

7       “(i) DEFINITIONS.—In this section—

8               “(1) the term ‘cost of attendance’ has the  
9 meaning given such term in section 472 of the High-  
10 er Education Act of 1965 (20 U.S.C. 1087ll);

11               “(2) the term ‘eligible entity’ means—

12                       “(A) an institution of higher education; or

13                       “(B) an institution of higher education  
14 that receives grant funds on behalf of a consor-  
15 tium of institutions of higher education;

16               “(3) the term ‘fellowship’ means an award to  
17 an individual under section 10A;

18               “(4) the term ‘high need local educational agen-  
19 cy’ has the meaning given such term in section 201  
20 of the Higher Education Act of 1965 (20 U.S.C.  
21 1021);

1           “(5) the term ‘mathematics and science teacher’  
2           means a science, technology, engineering, or mathe-  
3           matics teacher at the elementary school or secondary  
4           school level;

5           “(6) the term ‘scholarship’ means an award  
6           under subsection (c);

7           “(7) the term ‘science, technology, engineering,  
8           or mathematics professional’ means a person who  
9           holds a baccalaureate, master’s, or doctoral degree  
10          in science, technology, engineering, or mathematics,  
11          and is working in or had a career in such field or  
12          a related area; and

13          “(8) the term ‘stipend’ means an award under  
14          subsection (d).

15          “(j) MATHEMATICS AND SCIENCE SCHOLARSHIP  
16          GIFT FUND.—In accordance with section 11(f) of the Na-  
17          tional Science Foundation Act of 1950 (42 U.S.C.  
18          1870(f)), the Director is authorized to accept donations  
19          from the private sector to supplement but not supplant  
20          scholarships, stipends, internships, or fellowships associ-  
21          ated with programs under this section or section 10A.

1           “(k) ASSESSMENT OF TEACHER SERVICE AND RE-  
2 TENTION.—Not later than 4 years after the date of enact-  
3 ment of the America COMPETES Act, the Director shall  
4 transmit to the Committee on Health, Education, Labor,  
5 and Pensions of the Senate and the Committee on Science  
6 and Technology of the House of Representatives a report  
7 on the effectiveness of the programs carried out under this  
8 section and section 10A. The report shall include the pro-  
9 portion of individuals receiving scholarships, stipends, or  
10 fellowships under the program who—

11           “(1) fulfill the individuals’ service obligation re-  
12 quired under this section or section 10A;

13           “(2) remain in the teaching profession beyond  
14 the individuals’ service obligation; and

15           “(3) remain in the teaching profession in a high  
16 need local educational agency beyond the individuals’  
17 service obligation.

18           “(l) EVALUATION.—Not less than 2 years after the  
19 date of enactment of the America COMPETES Act, the  
20 Director, in consultation with the Secretary of Education,  
21 shall conduct an evaluation to determine whether the

1 scholarships, stipends, and fellowships authorized under  
2 this section and section 10A have been effective in increas-  
3 ing the numbers of high-quality mathematics and science  
4 teachers teaching in high need local educational agencies  
5 and whether there continue to exist significant shortages  
6 of such teachers in high need local educational agencies.

7 **“SEC. 10A. NATIONAL SCIENCE FOUNDATION TEACHING**  
8 **FELLOWSHIPS AND MASTER TEACHING FEL-**  
9 **LOWSHIPS.**

10 “(a) IN GENERAL.—

11 “(1) GRANTS.—

12 “(A) IN GENERAL.—As part of the Robert  
13 Noyce Teacher Scholarship Program established  
14 under section 10, the Director shall establish a  
15 separate program to award grants to eligible  
16 entities to enable such entities to administer fel-  
17 lowships in accordance with this section.

18 “(B) DEFINITIONS.—The terms used in  
19 this section have the meanings given the terms  
20 in section 10.

1           “(2) FELLOWSHIPS.—Fellowships under this  
2 section shall be available only to—

3           “(A) science, technology, engineering, or  
4 mathematics professionals, who shall be re-  
5 ferred to as ‘National Science Foundation  
6 Teaching Fellows’ and who, in the first year of  
7 the fellowship, are enrolled in a master’s degree  
8 program leading to teacher certification or li-  
9 censing; and

10           “(B) mathematics and science teachers,  
11 who shall be referred to as ‘National Science  
12 Foundation Master Teaching Fellows’ and who  
13 possess a master’s degree in their field.

14           “(b) ELIGIBILITY.—In order to be eligible to receive  
15 a grant under this section, an eligible entity shall enter  
16 into a partnership that shall include—

17           “(1) a department within an institution of high-  
18 er education participating in the partnership that  
19 provides an advanced program of study in mathe-  
20 matics and science;

1           “(2)(A) a school or department within an insti-  
2           tution of higher education participating in the part-  
3           nership that provides a teacher preparation pro-  
4           gram; or

5           “(B) a 2-year institution of higher education  
6           that has a teacher preparation offering or a dual en-  
7           rollment program with an institution of higher edu-  
8           cation participating in the partnership;

9           “(3) not less than 1 high need local educational  
10          agency and a public school or a consortium of public  
11          schools served by the agency; and

12          “(4) 1 or more nonprofit organizations that  
13          have a demonstrated record of capacity to provide  
14          expertise or support to meet the purposes of this  
15          section.

16          “(c) USE OF GRANTS.—Grants awarded under this  
17          section shall be used by the eligible entity (and partici-  
18          pating institutions of higher education of the consortium,  
19          if applicable) to develop and implement a program for Na-  
20          tional Science Foundation Teaching Fellows or National  
21          Science Foundation Master Teaching Fellows, through—

1           “(1) administering fellowships in accordance  
2           with this section, including providing the teaching  
3           fellowship salary supplements described in sub-  
4           section (f);

5           “(2) in the case of National Science Foundation  
6           Teaching Fellowships—

7                   “(A) offering academic courses and clinical  
8                   teaching experiences leading to a master’s de-  
9                   gree and designed to prepare individuals to  
10                  teach in elementary schools and secondary  
11                  schools, including such preparation as is nec-  
12                  essary to meet the requirements for certification  
13                  or licensing; and

14                   “(B) offering programs both during and  
15                   after matriculation in the program for which  
16                   the fellowship is received to enable fellows to  
17                   become highly effective mathematics and  
18                   science teachers, including mentoring, training,  
19                   induction, and professional development activi-  
20                   ties, to fulfill the service requirements of this  
21                   section, including the requirements of sub-

1 section (e), and to exchange ideas with others  
2 in their fields; and

3 “(3) in the case of National Science Foundation  
4 Master Teaching Fellowships—

5 “(A) offering academic courses and leader-  
6 ship training to prepare individuals to become  
7 master teachers in elementary schools and sec-  
8 ondary schools; and

9 “(B) offering programs both during and  
10 after matriculation in the program for which  
11 the fellowship is received to enable fellows to  
12 become highly effective mathematics and  
13 science teachers, including mentoring, training,  
14 induction, and professional development activi-  
15 ties, to fulfill the service requirements of this  
16 section, including the requirements of sub-  
17 section (e), and to exchange ideas with others  
18 in their fields.

19 “(d) SELECTION PROCESS.—



1           “(1) MERIT REVIEW.—Grants shall be awarded  
2           under this section on a competitive, merit-reviewed  
3           basis.

4           “(2) APPLICATIONS.—An eligible entity desiring  
5           a grant under this section shall submit an applica-  
6           tion to the Director at such time, in such manner,  
7           and containing such information as the Director  
8           may require. The application shall include, at a min-  
9           imum—

10                   “(A) in the case of an applicant that is  
11                   submitting an application on behalf of a consor-  
12                   tium of institutions of higher education, a de-  
13                   scription of the participating institutions of  
14                   higher education and the roles and responsibil-  
15                   ities of each such institution;

16                   “(B) a description of the program that the  
17                   applicant intends to operate, including the num-  
18                   ber of fellowships the applicant intends to  
19                   award, the type of activities proposed for the  
20                   recruitment of students to the program, and the  
21                   amount of the teaching fellowship salary supple-

1           ments to be provided in accordance with sub-  
2           section (f);

3           “(C) evidence that the applicant has the  
4           capability to administer the program in accord-  
5           ance with the provisions of this section, which  
6           may include a description of any existing pro-  
7           grams at the applicant eligible entity (and par-  
8           ticipating institutions of higher education of the  
9           consortium, if applicable) that are targeted to  
10          the education of mathematics and science  
11          teachers and the number of teachers graduated  
12          annually from such programs;

13          “(D) in the case of National Science Foun-  
14          dation Teaching Fellowships, a description of—

15                 “(i) the selection process that will be  
16                 used in awarding fellowships, including a  
17                 description of the rigorous measures to be  
18                 used, including the rigorous, nationally rec-  
19                 ognized assessments to be used, in order to  
20                 determine whether individuals applying for  
21                 fellowships have advanced content knowl-

1 edge of science, technology, engineering, or  
2 mathematics;

3 “(ii) the academic courses and clinical  
4 teaching experiences described in sub-  
5 section (c)(2)(A), including—

6 “(I) a description of an edu-  
7 cational program that will enable a  
8 student to obtain a master’s degree  
9 and teacher certification or licensing  
10 within 1 year; and

11 “(II) evidence of agreements be-  
12 tween the applicant and the schools or  
13 local educational agencies that are  
14 identified as the locations at which  
15 clinical teaching experiences will  
16 occur;

17 “(iii) a description of the programs  
18 described in subsection (c)(2)(B), including  
19 activities to assist individuals in fulfilling  
20 their service requirements under this sec-  
21 tion;

1           “(E) evidence that the eligible entity will  
2           provide the teaching supplements required  
3           under subsection (f); and

4           “(F) a description of the process the appli-  
5           cant will use to fulfill the requirements of sec-  
6           tion 10(f).

7           “(3) CRITERIA.—In evaluating the applications  
8           submitted under paragraph (2), the Director shall  
9           consider, at a minimum—

10           “(A) the ability of the applicant (and par-  
11           ticipating institutions of higher education of the  
12           consortium, if applicable) to effectively carry  
13           out the program and to meet the requirements  
14           of subsection (f);

15           “(B) the extent to which the mathematics,  
16           science, or engineering faculty and the edu-  
17           cation faculty at the eligible entity (and partici-  
18           pating institutions of higher education of the  
19           consortium, if applicable) have worked or will  
20           work collaboratively to design new or revised  
21           curricula that recognizes the specialized peda-

1           gogy required to teach science, technology, engi-  
2           neering, and mathematics effectively in elemen-  
3           tary schools and secondary schools;

4           “(C) the extent to which the applicant  
5           (and participating institutions of higher edu-  
6           cation of the consortium, if applicable) is com-  
7           mitted to making the program a central organi-  
8           zational focus;

9           “(D) the degree to which the proposed pro-  
10          gramming will enable participants to become  
11          highly effective mathematics and science teach-  
12          ers and prepare such participants to assume  
13          leadership roles in their schools, in addition to  
14          their regular classroom duties, including serving  
15          as mentor or master teachers, developing cur-  
16          riculum, and assisting in the development and  
17          implementation of professional development ac-  
18          tivities;

19          “(E) the number and quality of the indi-  
20          viduals that will be served by the program; and

1                   “(F) in the case of the National Science  
2                   Foundation Teaching Fellowship, the ability of  
3                   the applicant (and participating institutions of  
4                   higher education of the consortium, if applica-  
5                   ble) to recruit individuals who would otherwise  
6                   not pursue a career in teaching and individuals  
7                   identified in section 33 or 34 of the Science and  
8                   Engineering Equal Opportunities Act (42  
9                   U.S.C. 1855a or 1855b).

10                  “(4) SELECTION OF FELLOWS.—

11                   “(A) IN GENERAL.—Individuals shall be  
12                   selected to receive fellowships under this section  
13                   primarily on the basis of—

14                                 “(i) professional achievement;

15                                 “(ii) academic merit;

16                                 “(iii) content knowledge of science,  
17                   technology, engineering, or mathematics,  
18                   as demonstrated by their performance on  
19                   an assessment in accordance with para-  
20                   graph (2)(D)(i); and

1                   “(iv) in the case of National Science  
2                   Foundation Master Teaching Fellows,  
3                   demonstrated success in improving student  
4                   academic achievement in science, tech-  
5                   nology, engineering, or mathematics.

6                   “(B) PROMOTING PARTICIPATION OF CER-  
7                   TAIN INDIVIDUALS.—Among individuals dem-  
8                   onstrating equivalent qualifications, consider-  
9                   ation may be given to the goal of promoting the  
10                  participation of individuals identified in section  
11                  33 or 34 of the Science and Engineering Equal  
12                  Opportunities Act (42 U.S.C. 1885a or 1885b).

13               “(e) DUTIES OF NATIONAL SCIENCE FOUNDATION  
14               TEACHING FELLOWS AND MASTER TEACHING FEL-  
15               LWS.—A National Science Foundation Teaching Fellow  
16               or a National Science Foundation Master Teaching Fel-  
17               low, while fulfilling the service obligation under subsection  
18               (g) and in addition to regular classroom activities, shall  
19               take on a leadership role within the school or local edu-  
20               cational agency in which the fellow is employed, as defined  
21               by the partnership according to such fellow’s expertise, in-

1 eluding serving as a mentor or master teacher, developing  
2 curricula, and assisting in the development and implemen-  
3 tation of professional development activities.

4 “(f) TEACHING FELLOWSHIP SALARY SUPPLE-  
5 MENTS.—

6 “(1) IN GENERAL.—An eligible entity receiving  
7 a grant under this section shall provide salary sup-  
8 plements to individuals who participate in the pro-  
9 gram under this section during the period of their  
10 service obligation under subsection (g). A local edu-  
11 cational agency through which the service obligation  
12 is fulfilled shall agree not to reduce the base salary  
13 normally paid to an individual solely because such  
14 individual receives a salary supplement under this  
15 subsection.

16 “(2) AMOUNT AND DURATION.—

17 “(A) AMOUNT.—Salary supplements pro-  
18 vided under paragraph (1) shall be not less  
19 than \$10,000 per year, except that, in the case  
20 of a National Science Foundation Teaching Fel-  
21 low, while enrolled in the master’s degree pro-



1           gram as described in subsection (c)(2)(A), such  
2           fellow shall receive not more than the cost of  
3           attendance at such fellow's institution.

4           “(B) SUPPORT WHILE ENROLLED IN MAS-  
5           TER’S DEGREE PROGRAM.—A National Science  
6           Foundation Teaching Fellow may receive a  
7           maximum of 1 year of fellowship support while  
8           enrolled in a master’s degree program as de-  
9           scribed in subsection (c)(2)(A), except that if  
10          such fellow is enrolled in a part-time program,  
11          such amount shall be prorated according to the  
12          length of the program.

13          “(C) DURATION OF SUPPORT.—An eligible  
14          entity receiving a grant under this section shall  
15          provide teaching fellowship salary supplements  
16          through the period of the fellow’s service obliga-  
17          tion under subsection (g).

18          “(g) SERVICE OBLIGATION.—An individual awarded  
19          a fellowship under this section shall serve as a mathe-  
20          matics or science teacher in an elementary school or sec-

1    ondary school served by a high need local educational  
2    agency for—

3           “(1) in the case of a National Science Founda-  
4           tion Teaching Fellow, 4 years, to be fulfilled within  
5           6 years of completing the master’s program de-  
6           scribed in subsection (c)(2)(A); and

7           “(2) in the case of a National Science Founda-  
8           tion Master Teaching Fellow, 5 years, to be fulfilled  
9           within 7 years of the start of participation in the  
10          program under subsection (c)(3).

11         “(h) MATCHING REQUIREMENT.—

12           “(1) IN GENERAL.—An eligible entity receiving  
13           a grant under this section shall provide, from non-  
14           Federal sources, an amount equal to 50 percent of  
15           the amount of the grant (which may be provided in  
16           cash or in-kind) to carry out the activities supported  
17           by the grant.

18           “(2) WAIVER.—The Director may waive all or  
19           part of the matching requirement described in para-  
20           graph (1) for any fiscal year for an eligible entity re-  
21           ceiving a grant under this section, if the Director de-

1       termines that applying the matching requirement  
2       would result in serious hardship or inability to carry  
3       out the authorized activities described in this sec-  
4       tion.

5       “(i) CONDITIONS OF SUPPORT; COLLECTION FOR  
6 NONCOMPLIANCE; FAILURE TO COMPLETE SERVICE OB-  
7 LIGATION; DATA COLLECTION.—

8           “(1) IN GENERAL.—Except as provided in para-  
9       graph (2), subsections (e), (f), (g), and (h) of section  
10       10 shall apply to eligible entities and recipients of  
11       fellowships under this section, as applicable, in the  
12       same manner as such subsections apply to eligible  
13       entities and recipients of scholarships and stipends  
14       under section 10, as applicable.

15       “(2) AMOUNT OF REPAYMENT.—If a cir-  
16       cumstance described in subparagraph (D) or (E) of  
17       section 10(g)(1) occurs after the completion of 1  
18       year of a service obligation under this section—

19           “(A) for a National Science Foundation  
20       Teaching Fellow, the total amount of fellowship  
21       award received by the individual under this sec-

1           tion while enrolled in the master’s degree pro-  
2           gram, reduced by  $\frac{1}{4}$  of the total amount for  
3           each year of service completed, plus  $\frac{1}{2}$  of the  
4           total teaching fellowship salary supplements re-  
5           ceived by such individual under this section,  
6           shall be repaid or such amount shall be treated  
7           as a loan to be repaid in accordance with sec-  
8           tion 10(g)(1)(C); and

9           “(B) for a National Science Foundation  
10          Master Teaching Fellow, the total amount of  
11          teaching fellowship salary supplements received  
12          by the individual under this section, reduced by  
13           $\frac{1}{2}$ , shall be repaid or such amount shall be  
14          treated as a loan to be repaid in accordance  
15          with section 10(g)(1)(C).”.

16 **SEC. 7031. ENCOURAGING PARTICIPATION.**

17          (a) COMMUNITY COLLEGE PROGRAM.—Section 3 of  
18          the Scientific and Advanced-Technology Act of 1992 (42  
19          U.S.C. 1862i) is amended—

20                 (1) in subsection (a)(3)—

1 (A) in subparagraph (A), by striking  
2 “and” after the semicolon;

3 (B) in subparagraph (B), by striking the  
4 semicolon and inserting “; and”; and

5 (C) by adding at the end the following:

6 “(C) encourage participation of individuals  
7 identified in section 33 or 34 of the Science and  
8 Engineering Equal Opportunities Act (42  
9 U.S.C. 1885a or 1885b);”; and

10 (2) in subsection (c), by adding at the end the  
11 following:

12 “(3) MENTOR TRAINING GRANTS.—The Direc-  
13 tor shall—

14 “(A) establish a program to encourage and  
15 make grants available to institutions of higher  
16 education that award associate degrees to re-  
17 cruit and train individuals from the fields of  
18 science, technology, engineering, and mathe-  
19 matics to mentor students who are described in  
20 section 33 or 34 of the Science and Engineering  
21 Equal Opportunities Act (42 U.S.C. 1885a or

1           1885b) in order to assist those students in  
2           identifying, qualifying for, and entering higher-  
3           paying technical jobs in those fields; and

4                   “(B) make grants available to associate-de-  
5           gree-granting colleges to carry out the program  
6           identified in subsection (A).”.

7           (b) EVALUATION AND REPORT.—The Director shall  
8           establish metrics to evaluate the success of the programs  
9           established by the Foundation for encouraging individuals  
10          identified in section 33 or 34 of the Science and Engineer-  
11          ing Equal Opportunities Act (42 U.S.C. 1885a or 1885b)  
12          to study and prepare for careers in science, technology,  
13          engineering, and mathematics, including programs that  
14          provide for mentoring for such individuals. The Director  
15          shall carry out evaluations based on the metrics developed  
16          and report to Congress annually on the findings and con-  
17          clusions of the evaluations.

1 **SEC. 7032. NATIONAL ACADEMY OF SCIENCES REPORT ON**  
2 **DIVERSITY IN SCIENCE, TECHNOLOGY, ENGI-**  
3 **NEERING, AND MATHEMATICS FIELDS.**

4 (a) IN GENERAL.—The Director shall enter into an  
5 arrangement with the National Academy of Sciences for  
6 a report, to be transmitted to the Congress not later than  
7 1 year after the date of enactment of this Act, about bar-  
8 riers to increasing the number of underrepresented mi-  
9 norities in science, technology, engineering, and mathe-  
10 matics fields and to identify strategies for bringing more  
11 underrepresented minorities into the science, technology,  
12 engineering, and mathematics workforce.

13 (b) SPECIFIC REQUIREMENTS.—The Director shall  
14 ensure that the report described in subsection (a) address-  
15 es—

16 (1) social and institutional factors that shape  
17 the decisions of minority students to commit to edu-  
18 cation and careers in the science, technology, engi-  
19 neering, and mathematics fields;

1           (2) specific barriers preventing greater minority  
2 student participation in the science, technology, en-  
3 gineering, and mathematics fields;

4           (3) primary focus points for policy intervention  
5 to increase the recruitment and retention of under-  
6 represented minorities in the future workforce of the  
7 United States;

8           (4) programs already underway to increase di-  
9 versity in the science, technology, engineering, and  
10 mathematics fields, and their level of effectiveness;

11           (5) factors that make such programs effective,  
12 and how to expand and improve upon existing pro-  
13 grams;

14           (6) the role of minority-serving institutions in  
15 the diversification of the workforce of the United  
16 States in these fields and how that role can be sup-  
17 ported and strengthened; and

18           (7) how the public and private sectors can bet-  
19 ter assist minority students in their efforts to join  
20 the workforce of the United States in these fields.



1 **SEC. 7033. HISPANIC-SERVING INSTITUTIONS UNDER-**  
2 **GRADUATE PROGRAM.**

3 (a) IN GENERAL.—The Director is authorized to es-  
4 tablish a new program to award grants on a competitive,  
5 merit-reviewed basis to Hispanic-serving institutions (as  
6 defined in section 502 of the Higher Education Act of  
7 1965 (20 U.S.C. 1101a)) to enhance the quality of under-  
8 graduate science, technology, engineering, and mathe-  
9 matics education at such institutions and to increase the  
10 retention and graduation rates of students pursuing asso-  
11 ciate's or baccalaureate degrees in science, technology, en-  
12 gineering, and mathematics.

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

15 (1) activities to improve courses and curriculum  
16 in science, technology, engineering, and mathe-  
17 matics;

18 (2) faculty development;

19 (3) stipends for undergraduate students partici-  
20 pating in research; and

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

3           (c) INSTRUMENTATION.—Funding for instrumenta-  
4           tion is an allowed use of grants awarded under this sec-  
5           tion.

6   **SEC. 7034. PROFESSIONAL SCIENCE MASTER'S DEGREE**  
7           **PROGRAMS.**

8           (a) CLEARINGHOUSE.—

9           (1) DEVELOPMENT.—The Director shall estab-  
10          lish a clearinghouse, in collaboration with 4-year in-  
11          stitutions of higher education (including applicable  
12          graduate schools and academic departments), and  
13          industries and Federal agencies that employ science-  
14          trained personnel, to share program elements used  
15          in successful professional science master's degree  
16          programs and other advanced degree programs re-  
17          lated to science, technology, engineering, and mathe-  
18          matics.

19          (2) AVAILABILITY.—The Director shall make  
20          the clearinghouse of program elements developed  
21          under paragraph (1) available to institutions of

1 higher education that are developing professional  
2 science master's degree programs.

3 (b) PROGRAMS.—

4 (1) PROGRAMS AUTHORIZED.—The Director  
5 shall award grants to 4-year institutions of higher  
6 education to facilitate the institutions' creation or  
7 improvement of professional science master's degree  
8 programs that may include linkages between institu-  
9 tions of higher education and industries that employ  
10 science-trained personnel, with an emphasis on prac-  
11 tical training and preparation for the workforce in  
12 high-need fields.

13 (2) APPLICATION.—A 4-year institution of  
14 higher education desiring a grant under this section  
15 shall submit an application to the Director at such  
16 time, in such manner, and accompanied by such in-  
17 formation as the Director may require. The applica-  
18 tion shall include—

19 (A) a description of the professional  
20 science master's degree program that the insti-  
21 tution of higher education will implement;

1 (B) a description of how the professional  
2 science master's degree program at the institu-  
3 tion of higher education will produce individuals  
4 for the workforce in high-need fields;

5 (C) the amount of funding from non-Fed-  
6 eral sources, including from private industries,  
7 that the institution of higher education shall  
8 use to support the professional science master's  
9 degree program; and

10 (D) an assurance that the institution of  
11 higher education shall encourage students in  
12 the professional science master's degree pro-  
13 gram to apply for all forms of Federal assist-  
14 ance available to such students, including appli-  
15 cable graduate fellowships and student financial  
16 assistance under titles IV and VII of the High-  
17 er Education Act of 1965 (20 U.S.C. 1070 et  
18 seq., 1133 et seq.).

19 (3) PREFERENCES.—The Director shall give  
20 preference in making awards to 4-year institutions  
21 of higher education seeking Federal funding to cre-

1       ate or improve professional science master's degree  
2       programs, to those applicants—

3               (A) located in States with low percentages  
4               of citizens with graduate or professional de-  
5               grees, as determined by the Bureau of the Cen-  
6               sus, that demonstrate success in meeting the  
7               unique needs of the corporate, non-profit, and  
8               government communities in the State, as evi-  
9               denced by providing internships for professional  
10              science master's degree students or similar  
11              partnership arrangements; or

12              (B) that secure more than  $\frac{2}{3}$  of the fund-  
13              ing for such professional science master's de-  
14              gree programs from sources other than the  
15              Federal Government.

16              (4) NUMBER OF GRANTS; TIME PERIOD OF  
17              GRANTS.—

18              (A) NUMBER OF GRANTS.—Subject to the  
19              availability of appropriated funds, the Director  
20              shall award grants under paragraph (1) to a

1 maximum of 200 4-year institutions of higher  
2 education.

3 (B) TIME PERIOD OF GRANTS.—Grants  
4 awarded under this section shall be for one 3-  
5 year term. Grants may be renewed only once  
6 for a maximum of 2 additional years.

7 (5) EVALUATION AND REPORTS.—

8 (A) DEVELOPMENT OF PERFORMANCE  
9 BENCHMARKS.—Prior to the start of the grant  
10 program, the Director, in collaboration with 4-  
11 year institutions of higher education (including  
12 applicable graduate schools and academic de-  
13 partments), and industries and Federal agen-  
14 cies that employ science-trained personnel, shall  
15 develop performance benchmarks to evaluate  
16 the pilot programs assisted by grants under this  
17 section.

18 (B) EVALUATION.—For each year of the  
19 grant period, the Director, in consultation with  
20 4-year institutions of higher education (includ-  
21 ing applicable graduate schools and academic

1 departments), and industries and Federal agen-  
2 cies that employ science-trained personnel, shall  
3 complete an evaluation of each program as-  
4 sisted by grants under this section. Any pro-  
5 gram that fails to satisfy the performance  
6 benchmarks developed under subparagraph (A)  
7 shall not be eligible for further funding.

8 (C) REPORT.—Not later than 180 days  
9 after the completion of an evaluation described  
10 in subparagraph (B), the Director shall submit  
11 a report to Congress that includes—

- 12 (i) the results of the evaluation; and  
13 (ii) recommendations for administra-  
14 tive and legislative action that could opti-  
15 mize the effectiveness of the pilot pro-  
16 grams, as the Director determines to be  
17 appropriate.

18 **SEC. 7035. SENSE OF CONGRESS ON COMMUNICATIONS**  
19 **TRAINING FOR SCIENTISTS.**

20 (a) SENSE OF CONGRESS.—It is the sense of Con-  
21 gress that institutions of higher education receiving

1 awards under the Integrative Graduate Education and Re-  
2 search Traineeship program of the Foundation should,  
3 among the activities supported under these awards, train  
4 graduate students in the communication of the substance  
5 and importance of their research to nonscientist audi-  
6 ences.

7 (b) REPORT TO CONGRESS.—Not later than 3 years  
8 after the date of enactment of this Act, the Director shall  
9 transmit a report to the Committee on Science and Tech-  
10 nology of the House of Representatives and to the Com-  
11 mittee on Commerce, Science, and Transportation and the  
12 Committee on Health, Education, Labor, and Pensions of  
13 the Senate, describing the training programs described in  
14 subsection (a) provided to graduate students who partici-  
15 pated in the Integrative Graduate Education and Re-  
16 search Traineeship program. The report shall include data  
17 on the number of graduate students trained and a descrip-  
18 tion of the types of activities funded.

19 **SEC. 7036. MAJOR RESEARCH INSTRUMENTATION.**

20 (a) AWARD AMOUNT.—The minimum amount of an  
21 award under the Major Research Instrumentation pro-



1 gram shall be \$100,000. The maximum amount of an  
2 award under the program shall be \$4,000,000 except if  
3 the total amount appropriated for the program for a fiscal  
4 year exceeds \$125,000,000, in which case the maximum  
5 amount of an award shall be \$6,000,000.

6 (b) USE OF FUNDS.—In addition to the acquisition  
7 of instrumentation and equipment, funds made available  
8 by awards under the Major Research Instrumentation pro-  
9 gram may be used to support the operations and mainte-  
10 nance of such instrumentation and equipment.

11 (c) COST SHARING.—

12 (1) IN GENERAL.—An institution of higher edu-  
13 cation receiving an award under the Major Research  
14 Instrumentation program shall provide at least 30  
15 percent of the cost from private or non-Federal  
16 sources.

17 (2) EXCEPTIONS.—Institutions of higher edu-  
18 cation that are not Ph.D.-granting institutions are  
19 exempt from the cost sharing requirement in para-  
20 graph (1), and the Director may reduce or waive the  
21 cost sharing requirement for—

- 1 (A) institutions—
- 2 (i) that are not ranked among the top
- 3 100 institutions receiving Federal research
- 4 and development funding, as documented
- 5 by the statistical data published by the
- 6 Foundation; and
- 7 (ii) for which the proposed project will
- 8 make a substantial improvement in the in-
- 9 stitution's capabilities to conduct leading
- 10 edge research, to provide research experi-
- 11 ences for undergraduate students using
- 12 leading edge facilities, and to broaden the
- 13 participation in science and engineering re-
- 14 search by individuals identified in section
- 15 33 or 34 of the Science and Engineering
- 16 Equal Opportunities Act (42 U.S.C. 1885a
- 17 or 1885b); and
- 18 (B) consortia of institutions of higher edu-
- 19 cation that include at least one institution that
- 20 is not a Ph.D.-granting institution.

1 **SEC. 7037. LIMIT ON PROPOSALS.**

2 (a) POLICY.—For programs supported by the Foun-  
3 dation that require as part of the selection process for  
4 awards the submission of preproposals and that also limit  
5 the number of preproposals that may be submitted by an  
6 institution, the Director shall allow the subsequent sub-  
7 mission of a full proposal based on each preproposal that  
8 is determined to have merit following the Foundation’s  
9 merit review process.

10 (b) REVIEW AND ASSESSMENT OF POLICIES.—The  
11 Board shall review and assess the effects on institutions  
12 of higher education of the policies of the Foundation re-  
13 garding the imposition of limitations on the number of  
14 proposals that may be submitted by a single institution  
15 for programs supported by the Foundation. The Board  
16 shall determine whether current policies are well justified  
17 and appropriate for the types of programs that limit the  
18 number of proposal submissions. Not later than 1 year  
19 after the date of enactment of this Act, the Board shall  
20 summarize the Board’s findings and any recommendations  
21 regarding changes to the current policy on the restriction

1 of proposal submissions in a report to the Committee on  
2 Science and Technology of the House of Representatives  
3 and to the Committee on Commerce, Science, and Trans-  
4 portation and the Committee on Health, Education,  
5 Labor, and Pensions of the Senate.

6 **TITLE VIII—GENERAL**  
7 **PROVISIONS**

8 **SEC. 8001. COLLECTION OF DATA RELATING TO TRADE IN**  
9 **SERVICES.**

10 (a) REPORT.—Not later than January 31, 2008, the  
11 Secretary of Commerce, acting through the Director of the  
12 Bureau of Economic Analysis, shall report to Congress on  
13 the feasibility, annual cost, and potential benefits of a pro-  
14 gram to collect and study data relating to export and im-  
15 port of services.

16 (b) PROGRAM.—The proposed program to be studied  
17 under subsection (a) shall include requirements that the  
18 Secretary annually—

19 (1) provide data collection and analysis relating  
20 to export and import of services;

1           (2) collect and analyze data for service imports  
2           and exports in not less than 40 service industry cat-  
3           egories, on a State-by-State basis;

4           (3) collect data on, and analyze, the employ-  
5           ment effects of exports and imports on the service  
6           industry; and

7           (4) integrate ongoing and planned data collec-  
8           tion and analysis initiatives in research and develop-  
9           ment and innovation.

10 **SEC. 8002. SENSE OF THE SENATE REGARDING SMALL**  
11 **BUSINESS GROWTH AND CAPITAL MARKETS.**

12 (a) FINDINGS.—Congress finds that—

13           (1) the United States has the most fair, most  
14           transparent, and most efficient capital markets in  
15           the world, in part due to its strong securities statu-  
16           tory and regulatory scheme;

17           (2) it is of paramount importance for the con-  
18           tinued growth of the economy of the Nation, that  
19           our capital markets retain their leading position in  
20           the world;

1           (3) small businesses are vital participants in  
2           United States capital markets, and play a critical  
3           role in future economic growth and high-wage job  
4           creation;

5           (4) section 404 of the Sarbanes-Oxley Act of  
6           2002 has greatly enhanced the quality of corporate  
7           governance and financial reporting for public compa-  
8           nies and increased investor confidence;

9           (5) the Securities and Exchange Commission  
10          (referred to in this section as the “Commission”)  
11          and the Public Company Accounting Oversight  
12          Board (referred to in this section as the “PCAOB”)  
13          have both determined that the current auditing  
14          standard implementing section 404 of the Sarbanes-  
15          Oxley Act of 2002 has imposed unnecessary and un-  
16          intended cost burdens on small and mid-sized public  
17          companies;

18          (6) the Commission and the PCAOB are now  
19          near completion of a 2-year process intended to re-  
20          vise the auditing standard in order to provide more  
21          efficient and effective regulation; and



1           (1) assesses and evaluates the effectiveness of a  
2           representative sample of the new or expanded pro-  
3           grams and activities (including programs and activi-  
4           ties carried out under grants) required to be carried  
5           out under this Act; and

6           (2) includes such recommendations as the  
7           Comptroller General determines are appropriate to  
8           ensure effectiveness of, or improvements to, the pro-  
9           grams and activities, including termination of pro-  
10          grams or activities.

11 **SEC. 8004. SENSE OF THE SENATE REGARDING ANTI-COM-**  
12 **PETITIVE TAX POLICY.**

13          It is the sense of the Senate that Federal funds  
14          should not be provided to any organization or entity that  
15          advocates against a United States tax policy that is inter-  
16          nationally competitive.

17 **SEC. 8005. STUDY OF THE PROVISION OF ONLINE DEGREE**  
18 **PROGRAMS.**

19          (a) IN GENERAL.—Not later than 90 days after the  
20          date of enactment of this Act, the Secretary of Education  
21          shall enter into an arrangement with the National Acad-



1 emy of Sciences to conduct a study and provide a report  
2 to the Secretary, the Secretary of Commerce, and Con-  
3 gress. The study shall consider the mechanisms and sup-  
4 ports needed for an institution of higher education (as de-  
5 fined in section 7001) or nonprofit organization to develop  
6 and maintain a program to provide free access to online  
7 educational content as part of a degree program, especially  
8 in science, technology, engineering, mathematics, or for-  
9 eign languages, without using Federal funds, including  
10 funds provided under title IV of the Higher Education Act  
11 of 1965 (20 U.S.C. 1070 et seq.) The study shall consider  
12 whether such a program could be developed and managed  
13 by such institution of higher education or nonprofit orga-  
14 nization and sustained through private funding. The study  
15 shall examine how such program can—

16           (1) build on existing online programs, including  
17           making use of existing online courses;

18           (2) modify or expand traditional course content  
19           for online educational content;

20           (3) develop original course content for online  
21           courses and degree programs;

1           (4) provide necessary laboratory experience for  
2 science, technology, and engineering courses;

3           (5) be accepted for full credit by other institu-  
4 tions of higher education; and

5           (6) provide credentials that would be recognized  
6 by employers, enabling program participants to at-  
7 tain employment.

8       (b) AUTHORIZATION OF APPROPRIATIONS.—There  
9 are authorized to be appropriated to carry out this section  
10 such sums as may be necessary for fiscal year 2008.

11 **SEC. 8006. SENSE OF THE SENATE REGARDING DEEMED EX-**  
12 **PORTS.**

13       It is the sense of the Senate that—

14           (1) the policies of the United States Govern-  
15 ment relating to deemed exports should safeguard  
16 the national security of the United States and pro-  
17 tect fundamental research;

18           (2) the Department of Commerce has estab-  
19 lished the Deemed Export Advisory Committee to  
20 develop recommendations for improving current con-  
21 trols on deemed exports; and

1           (3) the President and Congress should consider  
2           the recommendations of the Deemed Export Advi-  
3           sory Committee in the development and implementa-  
4           tion of export control policies.

5 **SEC. 8007. SENSE OF THE SENATE REGARDING CAPITAL**  
6 **MARKETS.**

7           It is the sense of the Senate that—

8           (1) Congress, the President, regulators, indus-  
9           try leaders, and other stakeholders should take the  
10          necessary steps to reclaim the preeminent position of  
11          the United States in the global financial services  
12          marketplace;

13          (2) the Federal and State financial regulatory  
14          agencies should, to the maximum extent possible—

15                (A) coordinate activities on significant pol-  
16                icy matters, so as not to impose regulations  
17                that may have adverse unintended consequences  
18                on innovativeness with respect to financial prod-  
19                ucts, instruments, and services, or that impose  
20                regulatory costs that are disproportionate to  
21                their benefits; and

1 (B) at the same time, ensure that the reg-  
2 ulatory framework overseeing the United States  
3 capital markets continues to promote and pro-  
4 tect the interests of investors in those markets;  
5 and

6 (3) given the complexity of the financial serv-  
7 ices marketplace, Congress should exercise vigorous  
8 oversight over Federal regulatory and statutory re-  
9 quirements affecting the financial services industry  
10 and consumers, with the goal of eliminating exces-  
11 sive regulation and problematic implementation of  
12 existing laws and regulations, while ensuring that  
13 necessary investor protections are not compromised.

14 **SEC. 8008. ACCOUNTABILITY AND TRANSPARENCY OF AC-**  
15 **TIVITIES AUTHORIZED BY THIS ACT.**

16 (a) PROHIBITED USE OF FUNDS.—A grant or con-  
17 tract funded by amounts authorized by this Act may not  
18 be used for the purpose of defraying the costs of a banquet  
19 or conference that is not directly and programmatically  
20 related to the purpose for which the grant or contract was  
21 awarded. A directly and programmatically related banquet

1 or conference includes a banquet or conference held in  
2 connection with planning, training, assessment, review, or  
3 other routine purposes related to a project funded by the  
4 grant or contract. Records of the total costs related to,  
5 and justifications for, all banquets and conferences shall  
6 be reported to the appropriate Department, Administra-  
7 tion, or Foundation. Not later than 60 days after receipt  
8 of such records, the appropriate Department, Administra-  
9 tion, or Foundation shall make the records available to  
10 the public.

11 (b) CONFLICT OF INTEREST STATEMENT.—Any per-  
12 son awarded a grant or contract funded by amounts au-  
13 thorized by this Act shall submit a statement to the Sec-  
14 retary of Commerce, the Secretary of Energy, the Sec-  
15 retary of Education, the Administrator, or the Director,  
16 as appropriate, certifying that no funds derived from the  
17 grant or contract will be made available through a sub-  
18 contract or in any other manner to another person who  
19 has a financial interest or other conflict of interest in the  
20 person awarded the grant or contract, unless such conflict  
21 is previously disclosed and approved in the process of en-

1 tering into a contract or awarding a grant. Not later than  
2 60 days after receipt of the certification, the appropriate  
3 Secretary, Administrator, or Director shall make all docu-  
4 ments received that relate to the certification available to  
5 the public.

6 (c) APPLICATION TO FEDERAL GRANTS AND CON-  
7 TRACTS.—Subsections (a) and (b) shall take effect 360  
8 days after the date of enactment of this Act.

9 (d) EXCEPTION.—Subsections (a) and (b) shall not  
10 apply to grants or contracts authorized under sections  
11 6201 and 6203.

And the Senate agree to the same.