Calendar No. 70

110TH CONGRESS
1ST SESSION

S. 761

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

IN THE SENATE OF THE UNITED STATES

MARCH 5, 2007

Mr. REID (for himself, Mr. MCCONNELL, Mr. BINGAMAN, Mr. DOMENICI, Mr. INOUYE, Mr. STEVENS, Mr. KENNEDY, Mr. ENZI, Mr. LIEBERMAN, Mr. ENSIGN, Ms. MIKULSKI, Mr. ALEXANDER, Mr. NELSON of Florida, Mrs. HUTCHISON, Mr. KERRY, Mr. SMITH, Mr. MENENDEZ, Mr. ROBERTS, Mr. SALAZAR, Mr. CORNYN, Mr. PRYOR, Mr. COLEMAN, Ms. CANTWELL, Mr. MARTINEZ, Mr. CARPER, Ms. MURKOWSKI, Mrs. CLINTON, Mr. CRAIG, Mr. KOHL, Mr. LUGAR, Mr. BROWN, Mr. VOINOVICH, Mr. ROCKEFELLER, Mr. WARNER, Ms. LANDRIEU, Mr. OBAMA, Mr. DURBIN, and Mrs. FEINSTEIN) introduced the following bill; which was read the first time

MARCH 6, 2007

Read the second time and placed on the calendar

A BILL

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

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

SECTION 1. SHORT TITLE.

This Act may be cited as the ''America COMPETES Act'' or the ''America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act''.

SEC. 2. ORGANIZATION OF ACT INTO DIVISIONS; TABLE OF CONTENTS.

(a) DIVISIONS.—This Act is organized into 4 divisions as follows:

(1) DIVISION A.—Commerce and Science.

(2) DIVISION B.—Department of Energy.

(3) DIVISION C.—Education.

(4) DIVISION D.—National Science Foundation.

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

DIVISION A—COMMERCE AND SCIENCE

SEC. 1001. SHORT TITLE.

This division may be cited as the ''American Innovation and Competitiveness Act''.

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

SEC. 1101. NATIONAL SCIENCE AND TECHNOLOGY SUMMIT.

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

(b) REPORT.—Not later than 90 days after the date of the conclusion of the Summit, the President shall issue a report on the results of the Summit. The report shall identify key research and technology challenges and recommendations for areas of investment for Federal research and technology programs to be carried out during

the 5-year period beginning on the date the report is issued.

(c) ANNUAL EVALUATION.—Beginning in 2008, the Director of the Office of Science and Technology Policy shall publish and submit to Congress an annual report that contains recommendations for areas of investment for Federal research and technology programs, including a justification for each area identified in the report. Each report submitted during the 5-year period beginning on the date of the conclusion of the Summit shall take into account any recommendations made by the Summit.

SEC. 1102. STUDY ON BARRIERS TO INNOVATION.

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

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

(2) methods of voluntary and supplemental disclosure by industry of intellectual capital, innovation performance, and indicators of future valuation;

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

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

(5) costs faced by United States businesses engaging in innovation compared to foreign competitors, including the burden placed on businesses by high and rising health care costs;

(6) means by which industry, trade associations, and universities could collaborate to support research on management practices and methodologies for assessing the value and risks of longer term innovation strategies;

(7) means to encourage new, open, and collaborative dialogue between industry associations, regulatory authorities, management, shareholders, labor, and other concerned interests to encourage appropriate approaches to innovation risk-taking;

(8) incentives to encourage participation among institutions of higher education, especially those in rural and underserved areas, to engage in innovation;

(9) relevant Federal regulations that may discourage or encourage innovation;

(10) the extent to which Federal funding promotes or hinders innovation; and

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

(A) elementary school and secondary school student academic achievement on the State academic assessments required under section 1111(b)(3) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311 (b)(3)), especially in mathematics, science, and reading;

(B) the rate of student entrance into institutions of higher education by type of institution, and barriers to access to institutions of higher education;

(C) the rates of—

(i) students successfully completing postsecondary education programs; and

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

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

(b) REPORT REQUIRED.—Not later than 1 year after entering into the contract required by subsection (a) and 4 years after entering into such contract, the National Academy of Sciences shall submit to Congress a report on the study conducted under such subsection.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Academy of Sciences $1,000,000 for fiscal year 2008 for the purpose of carrying out the study required under this section.

SEC. 1103. NATIONAL INNOVATION MEDAL.

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

(1) by striking the section heading and inserting ''**SEC. 16. NATIONAL TECHNOLOGY AND INNOVATION MEDAL.**''; and

(2) in subsection (a), by striking ''Technology Medal'' and inserting ''Technology and Innovation Medal''.

SEC. 1104. RELEASE OF SCIENTIFIC RESEARCH RESULTS.

(a) PRINCIPLES.—Not later than 90 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy, in consultation with the Director of the Office of Management and Budget and the heads of all Federal civilian agencies that conduct scientific research, shall develop and issue an overarching set of principles to ensure the communication and open exchange of data and results to other agencies, policymakers, and the public of research conducted by a scientist employed by a Federal civilian agency and to prevent the intentional or unintentional suppression or distortion of such research findings. The principles shall encourage the open exchange of data and results of research undertaken by a scientist employed by such an agency and shall be consistent with existing Federal laws, including chapter 18 of title 35, United States Code (commonly known as the ''Bayh-Dole Act'').

(b) IMPLEMENTATION.—Not later than 180 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall ensure that all civilian Federal agencies that conduct scientific

research develop specific policies and procedures regarding the public release of data and results of research conducted by a scientist employed by such an agency consistent with the principles established under subsection (a). Such polices and procedures shall—

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

(2) be specifically designed for each such agency;

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

(4) be widely communicated and readily accessible to all employees of each such agency and the public.

SEC. 1105. SEMIANNUAL SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS DAYS.

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

(1) encourage all elementary and middle schools to observe a Science, Technology, Engineering, and Mathematics Day twice in every school year for the purpose of bringing in science, technology, engineering, and mathematics mentors to provide hands-on lessons to excite and inspire students to pursue the

science, technology, engineering, and mathematics fields (including continuing education and career paths);

(2) initiate a program, in consultation with Federal agencies and departments, to provide support systems, tools (from existing outreach offices), and mechanisms to allow and encourage Federal employees with scientific, technological, engineering, or mathematical responsibilities to reach out to local classrooms on such Science, Technology, Engineering, and Mathematics Days to instruct and inspire school children, focusing on real life science, technology, engineering, and mathematics-related applicable experiences along with hands-on demonstrations in order to demonstrate the advantages and direct applications of studying the science, technology, engineering, and mathematics fields; and

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

SEC. 1106. STUDY OF SERVICE SCIENCE.

(a) SENSE OF CONGRESS.—It is the sense of Congress that, in order to strengthen the competitiveness of

United States enterprises and institutions and to prepare the people of the United States for high-wage, high-skill employment, the Federal Government should better understand and respond strategically to the emerging management and learning discipline known as service science.

(b) STUDY.—Not later than 270 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy, through the National Academy of Sciences, shall conduct a study and report to Congress regarding how the Federal Government should support, through research, education, and training, the emerging management and learning discipline known as service science.

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

(d) SERVICE SCIENCE DEFINED.—In this section, the term ''service science'' means curricula, training, and research programs that are designed to teach individuals to apply scientific, engineering, and management disciplines that integrate elements of computer science, operations research, industrial engineering, business strategy,

management sciences, and social and legal sciences, in order to encourage innovation in how organizations create value for customers and shareholders that could not be achieved through such disciplines working in isolation.

TITLE II—INNOVATION PROMOTION

SEC. 1201. PRESIDENT'S COUNCIL ON INNOVATION AND COMPETITIVENESS.

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

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

(1) monitoring implementation of public laws and initiatives for promoting innovation, including policies related to research funding, taxation, immigration, trade, and education that are proposed in this Act or in any other Act;

(2) providing advice to the President with respect to global trends in competitiveness and innovation and allocation of Federal resources in education, job training, and technology research and development considering such global trends in competitiveness and innovation;

(3) in consultation with the Director of the Office of Management and Budget, developing a process for using metrics to assess the impact of existing

and proposed policies and rules that affect innovation capabilities in the United States;

(4) identifying opportunities and making recommendations for the heads of executive agencies to improve innovation, monitoring, and reporting on the implementation of such recommendations;

(5) developing metrics for measuring the progress of the Federal Government with respect to improving conditions for innovation, including through talent development, investment, and infrastructure improvements; and

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

(c) MEMBERSHIP AND COORDINATION.—

(1) MEMBERSHIP.—The Council shall be composed of the Secretary or head of each of the following:

(A) The Department of Commerce.

(B) The Department of Defense.

(C) The Department of Education.

(D) The Department of Energy.

(E) The Department of Health and Human Services.

(F) The Department of Homeland Security.

(G) The Department of Labor.

(H) The Department of the Treasury.

(I) The National Aeronautics and Space Administration.

(J) The Securities and Exchange Commission.

(K) The National Science Foundation.

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

(M) The Office of Management and Budget.

(N) The Office of Science and Technology Policy.

(O) The Environmental Protection Agency.

(P) Any other department or agency designated by the President.

(2) CHAIRPERSON.—The Secretary of Commerce shall serve as Chairperson of the Council.

(3) COORDINATION.—The Chairperson of the Council shall ensure appropriate coordination between the Council and the National Economic Council, the National Security Council, and the National Science and Technology Council.

(4) MEETINGS.—The Council shall meet on a semi-annual basis at the call of the Chairperson and

the initial meeting of the Council shall occur not later than 6 months after the date of enactment of this Act.

(d) DEVELOPMENT OF INNOVATION AGENDA.—

(1) IN GENERAL.—The Council shall develop a comprehensive agenda for strengthening the innovation and competitiveness capabilities of the Federal Government, State governments, academia, and the private sector in the United States.

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

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

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

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

(3) ADVISORS.—

(A) RECOMMENDATION.—Not later than 30 days after the date of enactment of this Act, the National Academy of Sciences, in consultation with the National Academy of Engineering, the Institute of Medicine, and the National Research Council, shall develop and submit to the President a list of 50 individuals that are recommended to serve as advisors to the Council during the development of the comprehensive agenda required by paragraph (1). The list of advisors shall include appropriate representatives from the following:

(i) The private sector of the economy.

(ii) Labor.

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

(iv) Scientific organizations.

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

(B) DESIGNATION.—Not later than 30 days after the date that the National Academy of Sciences submits the list of recommended in-

dividuals to serve as advisors, the President shall designate 50 individuals to serve as advisors to the Council.

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

(4) INITIAL SUBMISSION AND UPDATES.—

(A) INITIAL SUBMISSION.—Not later than 1 year after the date of enactment of this Act, the Council shall submit to Congress and the President the comprehensive agenda required by paragraph (1).

(B) UPDATES.—At least once every 2 years, the Council shall update the comprehensive agenda required by paragraph (1) and submit each such update to Congress and the President.

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

(f) OPTIONAL ASSIGNMENT.—Notwithstanding subsection (a) and paragraphs (1) and (2) of subsection (c),

the President may designate an existing council to carry out the requirements of this section.

SEC. 1202. INNOVATION ACCELERATION RESEARCH.

(a) PROGRAM ESTABLISHED.—The President, through the head of each Federal research agency, shall establish a program, to be known as the Innovation Acceleration Research Program, to support and promote innovation in the United States through research projects that can yield results with far-ranging or wide-ranging implications but are considered too novel or span too diverse a range of disciplines to fare well in the traditional peer review process. Priority in the awarding of grants under this program shall be given to research projects that—

(1) meet fundamental technology or scientific challenges;

(2) involve multidisciplinary work; and

(3) involve a high degree of novelty.

(b) DEPARTMENTS AND AGENCIES.—

(1) FUNDING GOALS.—The President shall ensure that it is the goal of each Executive agency (as defined in section 105 of title 5, United States Code) that finances research in science, mathematics, engineering, and technology to allocate approximately 8 percent of the agency's total annual research and development budget to funding re-

search, including grants, under the Innovation Acceleration Research Program.

(2) ADMINISTRATION.—

(A) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the head of each Executive agency participating in the Innovation Acceleration Research Program under paragraph (1) shall submit to the Director of the Office of Science and Technology Policy and the Director of the Office of Management and Budget a plan for implementing the research program within such Executive agency. An implementation plan may incorporate existing initiatives of the Executive agencies that promote research in innovation as described in subsection (a).

(B) REQUIRED METRICS.—

(i) IN GENERAL.—The head of each Executive agency submitting an implementation plan pursuant to subparagraph (A) shall include metrics upon which grant funding decisions will be made and metrics for assessing the success of the grants awarded.

(ii) METRICS FOR BASIC RESEARCH.—The metrics developed under clause (i) to assess basic research programs shall assess management of the programs and shall not assess specific scientific outcomes of the research conducted by the programs.

(C) GRANT DURATION AND RENEWALS.—

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

(ii) EVALUATION.—Not later than 90 days prior to the expiration of a grant issued under this section, the Executive agency that approved the grant shall complete an evaluation of the effectiveness of the grant based on the metrics established pursuant to subparagraph (B). In its evaluation, the Executive agency shall consider the extent to which the program funded by the grant met the goals of quality improvement and job creation.

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

(iv) FAILURE TO MEET METRICS.—Any grant that the Executive agency awarding the grant determines has failed to satisfy any of the metrics developed pursuant to subparagraph (B), shall not be eligible for a renewal.

(v) RENEWAL.—A grant issued under this section that satisfies all of the metrics developed pursuant to subparagraph (B), may be renewed once for a period of not more than 3 years. Additional renewals may be considered only if the head of the Executive agency makes a specific finding that the program being funded involves a significant technology or scientific advance that requires a longer time frame to complete critical research, and the research satisfies all the metrics developed pursuant to subparagraph (B).

(vi) WAIVER.—The head of the Executive agency may authorize a waiver of the requirement of clauses (iv) and (v) related to satisfying metric requirements if he or she determines that the grant failed to meet a small number of metrics and the

failure was not significant for the overall performance of the grant.

(c) DEFINITIONS.—In this section:

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

(2) MAJOR ORGANIZATIONAL COMPONENT.—The term ''major organizational component'', with respect to a department, agency, or other establishment of the Federal Government, means a component of the department, agency, or other establishment that is administered by an individual whose rate of basic pay is not less than the rate of basic pay payable under level V of the Executive Schedule under section 5316 of title 5, United States Code.

TITLE III—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEC. 1301. NASA'S CONTRIBUTION TO INNOVATION.

(a) PARTICIPATION IN INTERAGENCY ACTIVITIES.—The National Aeronautics and Space Administration shall

be a full participant in any interagency effort to promote innovation and economic competitiveness through near-term and long-term basic scientific research and development and the promotion of science, technology, engineering, and mathematics education.

(b) HISTORIC FOUNDATION.—In order to carry out the participation described in subsection (a), the Administrator of the National Aeronautics and Space Administration shall build on the historic role of the National Aeronautics and Space Administration in stimulating excellence in the advancement of physical science and engineering disciplines and in providing opportunities and incentives for the pursuit of academic studies in science, technology, engineering, and mathematics.

(c) BALANCED SCIENCE PROGRAM AND ROBUST AUTHORIZATION LEVELS.—The balanced science program authorized by section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611) shall be an element of the contribution by the National Aeronautics and Space Administration to such interagency programs. It is the sense of Congress that a robust National Aeronautics and Space Administration, funded at the levels authorized for fiscal years 2007 and 2008 under sections 202 and 203 of such Act (42 U.S.C. 16631 and 16632) and at appropriate levels in

subsequent fiscal years would enable a fair balance among science, aeronautics, education, exploration, and human space flight programs and allow full participation in any interagency efforts to promote innovation and economic competitiveness.

(d) ANNUAL REPORT.—

(1) REQUIREMENT.—The Administrator shall submit to Congress and the President an annual report describing the activities conducted pursuant to this section, including a description of the goals and the objective metrics upon which funding decisions were made.

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

(A) A description of each program.

(B) The amount spent on each program.

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

(D) Measurement of how each program improved student achievement, including with regard to challenging State achievement standards.

SEC. 1302. AERONAUTICS INSTITUTE FOR RESEARCH.

(a) ESTABLISHMENT.—

(1) IN GENERAL.—The Administrator of the National Aeronautics and Space Administration shall establish within the Administration an Aeronautics Institute for Research for the purpose of managing the aeronautics research carried out by the Administration.

(2) DIRECTOR.—The Institute shall be headed by a Director with appropriate experience in aeronautics research and development.

(b) DUTIES.—The Institute shall implement the programs authorized under title IV of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16701 et seq.).

(c) COOPERATION WITH OTHER AGENCIES.—

(1) IN GENERAL.—The Institute shall operate in conjunction with relevant programs in the Department of Transportation, the Department of Defense, the Department of Commerce, and the Department of Homeland Security, including the activities of the Joint Planning and Development Office established under the Vision 100—Century of Aviation Reauthorization Act (Public Law 108–176; 117 Stat. 2490).

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

(3) OTHER COORDINATION.—The Director of the Institute may utilize the Next Generation Air Transportation Senior Policy Committee established under section 710 of the Vision 100—Century of Aviation Reauthorization Act (Public Law 108–176; 49 U.S.C. 40101 note) to coordinate its programs with other Departments and agencies.

(d) PARTNERSHIPS.—In developing and carrying out its plans, the Institute shall consult with the public and ensure the participation of experts from the private sector including representatives of commercial aviation, general aviation, aviation labor groups, aviation research and development entities, aircraft and air traffic control suppliers, and the space industry.

SEC. 1303. BASIC RESEARCH ENHANCEMENT.

(a) IN GENERAL.—The Administrator of the National Aeronautics and Space Administration, the Director of the National Science Foundation, the Secretary of En-

ergy, the Secretary of Defense, and Secretary of Commerce shall, to the extent practicable, coordinate basic and fundamental research activities related to physical sciences, technology, engineering and mathematics.

(b) ESTABLISHMENT OF BASIC RESEARCH EXECUTIVE COUNCIL.—In order to ensure effective application of resources to basic science activity and to facilitate cooperative basic and fundamental research activities with other governmental organizations, the Administrator of the National Aeronautics and Space Administration shall establish within the Administration a Basic Research Executive Council to oversee the distribution and management of programs and resources engaged in support of basic research activity.

(c) MEMBERSHIP.—The membership of the Basic Research Executive Council shall consist of the most senior agency official representing each of the following areas of research:

(1) Space Science.

(2) Earth Science.

(3) Life and Microgravity Sciences.

(4) Aeronautical Research.

(d) LEADERSHIP.—The Basic Research Executive Council shall be chaired by an individual appointed for that purpose who shall have, as a minimum, a appropriate

graduate degree in a recognizable discipline in the physical sciences, and appropriate experience in the conduct and management of basic research activity. The Chairman of the Council shall report directly to the Administrator of the National Aeronautics and Space Administration.

(e) SUPPORTING RESOURCES AND PERSONNEL.—The Chairman of the Basic Research Executive Council shall be provided with adequate administrative staff support to conduct the activity and functions of the Council.

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

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

(2) To establish, in consultation with the Office of Science and Technology Policy, the National Science Foundation, the National Academy of Sciences, the National Institutes of Health, and other appropriate external organizations, a prioritization of fundamental research activity to be conducted by the National Aeronautics and Space Administration, to be reviewed and updated on an annual basis, taking into consideration evolving national research priorities.

(3) To monitor, review, and evaluate all basic research activity of the National Aeronautics and

Space Administration for compliance with basic research priorities established under paragraph (2).

(4) To make recommendations to the Administrator of the National Aeronautics and Space Administration regarding adjustments in the basic research activities of the Administration to ensure consistency with the research priorities established under this section.

(5) To provide an annual report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives outlining the activities of the Council during the preceding year and the status of basic research activity within the Administration. The initial such report, to serve as a baseline document, shall be provided within 90 days after the establishment and initial operations of the Council.

SEC. 1304. AGING WORKFORCE ISSUES PROGRAM.

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

(1) documents technical and management experiences before senior people leave the Administration, including—

(A) documenting lessons learned;

(B) briefing organizations;

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

(D) providing opportunities for near-term retirees to transition out early from their primary assignment in order to document their career lessons learned and brief new employees prior to their separation from the Administration;

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

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

SEC. 1305. CONFORMING AMENDMENTS.

Section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611(d)) is amended—

(1) by striking ''and'' after the semicolon in paragraph (2)(B);

(2) by striking ''Act.'' in paragraph (2)(C) and inserting ''Act; and'';

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

''(D) the number and content of science activities which are undertaken in support of science missions described in subparagraph (A), and the number and content of science activities which may be considered as fundamental, or basic research, whether incorporated within specific missions or conducted independently of any specific mission.''; and

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

''(H) How NASA science activities can best be structured to ensure that basic and fundamental research can be effectively maintained and coordinated in response to national goals in competitiveness and innovation, and in contributing to national scientific, technology, engineering and mathematics leadership.''.

SEC. 1306. FISCAL YEAR 2008 BASIC SCIENCE AND RESEARCH FUNDING.

Notwithstanding any other provision of law, the Administrator of the National Aeronautics and Space Administration shall increase funding for basic science and research, including for the Explorer Program, for fiscal year

2008 by $160,000,000 by transferring such amount for such purpose from accounts of the National Aeronautics and Space Administration. The transfer shall be contingent upon the availability of unobligated balances to the National Aeronautics and Space Administration.

TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

SEC. 1401. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary of Commerce for the use of the National Institute of Standards and Technology—

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

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

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

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

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

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

(b) CONFORMING AMENDMENTS.—

(1) TITLE 5, UNITED STATES CODE.—Section 5314 of title 5, United States Code, is amended by striking ''Under Secretary of Commerce for Technology.''.

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

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

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

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

(A) in paragraph (1), by striking ''sections 5, 11(g), and 16'' and inserting ''sections 11(g) and 16''; and

(B) in paragraph (2), by striking ''$500,000 is authorized only for the purpose of

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

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

(5) ASSISTIVE TECHNOLOGY ACT OF 1998.—Section 6(b)(4)(B)(v) of the Assistive Technology Act of 1998 (29 U.S.C. 3005(b)(4)(B)(v)) is amended by striking ''the Technology Administration of the Department of Commerce,'' and inserting ''the National Institute of Standards and Technology,''.

SEC. 1403. INNOVATION ACCELERATION.

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

(1) establish a program linked to the goals and objectives of the measurement laboratories, to be known as the ''Standards and Technology Acceleration Research Program'', to support and promote innovation in the United States through high-risk, high-reward research; and

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

(b) EXTERNAL FUNDING.—The Director shall ensure that at least 80 percent of the funds available for such Program shall be used to award competitive, merit-reviewed grants, cooperative agreements, or contracts to public or private entities, including businesses and universities. In selecting entities to receive such assistance, the Director shall ensure that the project proposed by an entity has scientific and technical merit and that any resulting intellectual property shall vest in a United States entity that can commercialize the technology in a timely manner. Each external project shall involve at least one small or medium-sized business and the Director shall give priority to joint ventures between small or medium-sized businesses and educational institutions. Any grant shall be for a period not to exceed 3 years.

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

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

grant funding decisions were made in the previous fiscal year, any proposed changes to those metrics, metrics for evaluating the success of ongoing and completed grants, and an evaluation of ongoing and completed grants. The first annual report shall include best practices for management of programs to stimulate high-risk, high-reward research.

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

(f) HIGH-RISK, HIGH-REWARD RESEARCH DEFINED.—In this section, the term ''high-risk, high-reward research'' means research that—

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

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

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

SEC. 1404. MANUFACTURING EXTENSION.

(a) MANUFACTURING CENTER EVALUATION.—Section 25(c)(5) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(c)(5)) is amended by inserting ''A Center that has not received a positive evalua-

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

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

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

SEC. 1405. EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE TECHNOLOGY.

(a) IN GENERAL.—The Director of the National Institutes of Standards and Technology shall re-establish the Experimental Program to Stimulate Competitive Technology. The purpose of the program shall be to strengthen the technological competitiveness of those States that have historically received less Federal research and development funds than a majority of the States have received.

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

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

(1) technology research and development;

(2) technology transfer from university research;

(3) technology deployment and diffusion; and

(4) the strengthening of technological and innovation capabilities through consortia comprised of—

(A) technology-based small business firms;

(B) industries and emerging companies;

(C) institutions of higher education including community colleges; and

(D) State and local development agencies and entities.

(d) REQUIREMENTS FOR MAKING AWARDS.—

(1) IN GENERAL.—In making awards under this section, the Director shall ensure that the awards are awarded on a competitive basis that includes a review of the merits of the activities that are the subject of the award, giving special emphasis to those projects which will increase the participation of women, Native Americans (including Native Hawaiians and Alaska Natives), and underrepresented groups in science and technology.

(2) MATCHING REQUIREMENT.—The non-Federal share of the activities (other than planning activities) carried out under an award under this subsection shall be not less than 50 percent of the cost of those activities.

(e) CRITERIA FOR STATES.—The Director shall establish criteria for achievement by each State that participates in the program. Upon the achievement of all such criteria, a State shall cease to be eligible to participate in the program.

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

(g) REPORT.—

(1) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the Director shall prepare and submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a report that meets the requirements of this subsection.

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

(A) a description of the structure and procedures of the program;

(B) a management plan for the program;

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

(D) milestones for the evaluation of activities to be assisted under the program in fiscal year 2008;

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

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

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

SEC. 1406. TECHNICAL AMENDMENTS TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT AND OTHER TECHNICAL AMENDMENTS.

(a) RESEARCH FELLOWSHIPS.—Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g–1) is amended by striking ''up to 1 per centum of the'' in the first sentence.

(b) FINANCIAL AGREEMENTS.—

(1) CLARIFICATION.—Section 2(b)(4) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)(4)) is amended by inserting ''and grants and cooperative agreements,'' after ''arrangements,''.

(2) MEMBERSHIPS.—Section 2(c) of the National Institute of Standards and Technology Act (15 U.S.C. 272(c)) is amended—

(A) by striking ''and'' after the semicolon in paragraph (21);

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

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

''(22) notwithstanding subsection (b)(4) of this section, sections 6301 through 6308 of title 31, United States Code (commonly known as the 'Grants and Cooperative Agreements Act'), sections 3551 through 3556 of such title (commonly known as the 'Competition in Contracting Act'), and the Federal Acquisition Regulations set forth in title 48, Code of Federal Regulations, to expend appropriated funds for National Institute of Standards and Technology memberships in scientific organizations, registration fees for attendance at conferences, and sponsorship of conferences in furtherance of technology transfer; and''.

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

''(g) AMOUNT AND SOURCE OF TRANSFERS.—Not to exceed one-quarter per centum of the amounts appropriated to the Institute for any fiscal year may be transferred to the fund, in addition to any other transfer authority. In addition, funds provided to the Institute from other Federal agencies for the purpose of production of

Standard Reference Materials may be transferred to the fund.''.

(d) OUTDATED SPECIFICATIONS.—

(1) REDEFINITION OF METRIC SYSTEM.—Section 2 of the Act of July 28, 1866, entitled ''An Act to authorize the Use of the Metric System of Weights and Measures'' (15 U.S.C. 205; 14 Stat. 339) is amended to read as follows:

''SEC. 2. METRIC SYSTEM DEFINED.

''The metric system of measurement shall be defined as the International System of Units as established in 1960, and subsequently maintained, by the General Conference of Weights and Measures, and as interpreted or modified for the United States by the Secretary of Commerce.''.

(2) REPEAL OF REDUNDANT AND OBSOLETE AUTHORITY.—The Act of July 21, 1950, entitled, ''An Act To redefine the units and establish the standards of electrical and photometric measurements of 1950'' (15 U.S.C. 223) is hereby repealed.

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

(A) in the section heading, by striking ''**third zone**'' and inserting ''**fourth zone**''; and

(B) by striking ''third zone'' and inserting ''fourth zone''.

(4) STANDARD TIME.—Section 1 of the Act of March 19, 1918, (commonly known as the ''Calder Act'') (15 U.S.C. 261) is amended—

(A) by inserting ''(a) IN GENERAL.—'' before ''For the purpose'';

(B) by striking the second sentence and the extra period after it and inserting ''Except as provided in section 3(a) of the Uniform Time Act of 1966 (15 U.S.C. 260a), the standard time of the first zone shall be Coordinated Universal Time retarded by 4 hours; that of the second zone retarded by 5 hours; that of the third zone retarded by 6 hours; that of the fourth zone retarded by 7 hours; that of the fifth zone retarded 8 hours; that of the sixth zone retarded by 9 hours; that of the seventh zone retarded by 10 hours; that of the eighth zone retarded by 11 hours; and that of the ninth zone shall be Coordinated Universal Time advanced by 10 hours.''; and

(C) by adding at the end the following:

''(b) COORDINATED UNIVERSAL TIME DEFINED.—In this section, the term 'Coordinated Universal Time' means the time scale maintained through the General Conference of Weights and Measures and interpreted or modified for the United States by the Secretary of Commerce in coordination with the Secretary of the Navy.''.

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

(1) by inserting ''(a) IN GENERAL.—'' before ''Within''; and

(2) by adding at the end the following:

''(b) RETENTION OF FEES.—The Director is authorized to retain all building use and depreciation surcharge fees collected pursuant to OMB Circular A–25. Such fees shall be collected and credited to the Construction of Research Facilities Appropriation Account for use in maintenance and repair of National Institute of Standards and Technology's existing facilities.''.

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

TITLE V—OCEAN AND ATMOSPHERIC PROGRAMS

SEC. 1501. OCEAN AND ATMOSPHERIC RESEARCH AND DEVELOPMENT PROGRAM.

The Administrator of the National Oceanic and Atmospheric Administration, in consultation with the Director of the National Science Foundation and the Administrator of the National Aeronautics and Space Administration, shall establish a coordinated program of ocean and atmospheric research and development, in collaboration with academic institutions and other nongovernmental entities, that shall focus on the development of advanced technologies and analytical methods that will promote United States leadership in ocean and atmospheric science and competitiveness in the applied uses of such knowledge.

SEC. 1502. NOAA OCEAN AND ATMOSPHERIC SCIENCE EDUCATION PROGRAMS.

(a) IN GENERAL.—The Administrator of the National Oceanic and Atmospheric Administration shall conduct, develop, support, promote, and coordinate formal and informal educational activities at all levels to enhance public awareness and understanding of ocean, coastal, and atmospheric science and stewardship by the general public and other coastal stakeholders, including underrepresented groups in ocean and atmospheric science and pol-

icy careers. In conducting those activities, the Administrator shall build upon the educational programs and activities of the agency.

(b) NOAA SCIENCE EDUCATION PLAN.—The Administrator, appropriate National Oceanic and Atmospheric Administration programs, ocean atmospheric science and education experts, and interested members of the public shall develop a science education plan setting forth education goals and strategies for the Administration, as well as programmatic actions to carry out such goals and priorities over the next 20 years, and evaluate and update such plan every 5 years.

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

DIVISION B—DEPARTMENT OF ENERGY

SEC. 2001. SHORT TITLE.

This division may be cited as the ''Protecting America's Competitive Edge Through Energy Act'' or the ''PACE–Energy Act''.

SEC. 2002. DEFINITIONS.

In this division:

(1) DEPARTMENT.—The term ''Department'' means the Department of Energy.

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

(3) NATIONAL LABORATORY.—The term ''National Laboratory'' has the meaning given the term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

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

SEC. 2003. MATHEMATICS, SCIENCE, AND ENGINEERING EDUCATION AT THE DEPARTMENT OF ENERGY.

(a) SCIENCE EDUCATION PROGRAMS.—Section 3164 of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381a) is amended—

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

(2) by inserting after subsection (a) the following:

''(b) ORGANIZATION OF MATHEMATICS, SCIENCE, AND ENGINEERING EDUCATION PROGRAMS.—

''(1) DIRECTOR OF MATHEMATICS, SCIENCE AND ENGINEERING EDUCATION.—Notwithstanding any other provision of law, the Secretary, acting through the Under Secretary for Science (referred to in this subsection as the 'Under Secretary'), shall appoint a Director of Mathematics, Science, and Engineering Education (referred to in this subsection as the 'Director') with the principal responsibility for administering mathematics, science, and engineering education programs across all functions of the Department.

''(2) QUALIFICATIONS.—The Director shall be an individual, who by reason of professional background and experience, is specially qualified to advise the Under Secretary on all matters pertaining to mathematics, science, and engineering education at the Department.

''(3) DUTIES.—The Director shall—

''(A) oversee all mathematics, science, and engineering education programs of the Department;

''(B) represent the Department as the principal interagency liaison for all mathe-

matics, science, and engineering education programs, unless otherwise represented by the Secretary or the Under Secretary;

"(C) prepare the annual budget and advise the Under Secretary on all budgetary issues for mathematics, science, and engineering education programs of the Department;

"(D) increase, to the maximum extent practicable, the participation and advancement of women and underrepresented minorities at every level of science, technology, engineering, and mathematics education; and

"(E) perform other such matters related to mathematics, science, and engineering education as are required by the Secretary or the Under Secretary.

"(4) STAFF AND OTHER RESOURCES.—The Secretary shall assign to the Director such personnel and other resources as the Secretary considers necessary to permit the Director to carry out the duties of the Director.

"(5) ASSESSMENT.—

"(A) IN GENERAL.—The Secretary shall offer to enter into a contract with the National Academy of Sciences under which the National

Academy, not later than 5 years after, and not later than 10 years after, the date of enactment of this paragraph, shall assess the performance of the mathematics, science, and engineering education programs of the Department.

''(B) CONSIDERATIONS.—An assessment under this paragraph shall be conducted taking into consideration, where applicable, the effect of mathematics, science, and engineering education programs of the Department on student academic achievement in math and science.

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

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

''(d) MATHEMATICS, SCIENCE, AND ENGINEERING EDUCATION FUND.—The Secretary shall establish a Mathematics, Science, and Engineering Education Fund, using not less than 0.3 percent of the amount made available to the Department for research, development, demonstration, and commercial application for each fiscal year, to carry out sections 3165, 3166, and 3167.''.

(b) CONSULTATION.—The Secretary shall—

(1) consult with the Secretary of Education regarding activities authorized under subpart B of the Department of Energy Science Education Enhancement Act (as added by subsection (d)(3)) to improve mathematics and science education; and

(2) otherwise make available to the Secretary of Education reports associated with programs authorized under that section.

(c) DEFINITION.—Section 3168 of the Department of Energy Science Education Enhancement Act (42 U.S.C. 7381d) is amended by adding at the end the following:

''(5) NATIONAL LABORATORY.—The term 'National Laboratory' has the meaning given the term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).''.

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

(1) by inserting after section 3162 the following:

''Subpart A—Science Education Enhancement'';

(2) in section 3169, by striking ''part'' and inserting ''subpart''; and

(3) by adding at the end the following:

"Subpart B—Mathematics, Science, and Engineering Education Programs

"SEC. 3170. DEFINITIONS.

"In this subpart:

"(1) DIRECTOR.—The term 'Director' means the Director of Mathematics, Science, and Engineering Education.

"(2) NATIONAL LABORATORY.—The term 'National Laboratory' has the meaning given the term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

"CHAPTER 1—ASSISTANCE FOR SPECIALTY SCHOOLS FOR MATHEMATICS AND SCIENCE

"SEC. 3171. SPECIALTY SCHOOLS FOR MATHEMATICS AND SCIENCE.

"(a) PURPOSE.—The purpose of this section is to provide assistance to States to establish or expand public, statewide specialty secondary schools that provide comprehensive mathematics and science (including engineering) education to improve the academic achievement of students in mathematics and science.

"(b) DEFINITION OF SPECIALTY SCHOOL FOR MATHEMATICS AND SCIENCE.—In this chapter, the term 'spe-

cialty school for mathematics and science' means a public secondary school (including a school that provides residential services to students) that—

''(1) serves students residing in the State in which the school is located; and

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

''(c) GRANTS AUTHORIZED.—

''(1) IN GENERAL.—From the amounts authorized under subsection (i), the Secretary, acting through the Director, shall award grants, on a competitive basis, to States in order to provide assistance to the States for the costs of establishing or expanding public, statewide specialty schools for mathematics and science.

''(2) RESOURCES.—The Director shall ensure that appropriate resources of the Department, including the National Laboratories, are available to schools funded under this section in order to—

''(A) increase experiential, hands-on learning opportunities in mathematics and science for students attending such schools; and

''(B) provide ongoing professional development opportunities for teachers employed at such schools.

''(3) ASSISTANCE.—Consistent with sections 3165 and 3166, the Director shall make available necessary funds for a program using scientific and engineering staff of the National Laboratories, during which the staff—

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

''(B) uses National Laboratory scientific equipment in teaching the courses; and

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

''(4) RESTRICTION.—No State shall receive funding for more than 1 specialty school for mathematics and science for a fiscal year.

''(d) FEDERAL AND NON-FEDERAL SHARES.—

''(1) FEDERAL SHARE.—The Federal share of the costs described in subsection (c)(1) shall not exceed 50 percent.

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

''(A) not less than 50 percent; and

''(B) provided from non-Federal sources, in cash or in kind, fairly evaluated, including services.

''(e) APPLICATION.—Each State desiring a grant under this section shall submit an application to the Director at such time, in such manner, and accompanied by such information as the Director may require that describes—

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

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

''(A) in accordance with the activities described in subsection (g); and

''(B) that has the capacity to improve the academic achievement of all students in all core

academic subjects, and particularly in mathematics and science;

''(3) how the State will measure the extent to which the school increases student academic achievement on State academic achievement standards in mathematics and science;

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

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

''(6) how the State will use technical assistance and support from the Department, including the National Laboratories, and other entities with experience and expertise in mathematics and science education, including institutions of higher education.

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

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

''(2) provide equal consideration to States without National Laboratories.

''(g) USES OF FUNDS.—

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

''(A) employ proven strategies and methods for improving student learning and teaching in mathematics and science;

''(B) integrate into the curriculum of the school comprehensive mathematics and science education, including instruction and assessments that are aligned with the State's academic content and student academic achievement standards (within the meaning of section 1111 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311)), classroom management, professional development, parental involvement, and school management; and

''(C) provide high-quality and continuous teacher and staff professional development.

''(2) SPECIAL RULE.—Grant funds under this section may be used for activities described in paragraph (1) only if the activities are directly related to improving student academic achievement in mathematics and science.

''(h) EVALUATION AND REPORT.—

''(1) STATE EVALUATION AND REPORT.—

''(A) EVALUATION.—Each State that receives a grant under this section shall develop and carry out an evaluation and accountability plan for the activities funded through the grant that measures the impact of the activities, including measurable objectives for improved student academic achievement on State mathematics and science assessments.

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

''(2) REPORT TO CONGRESS.—Not later than 2 years after the date of enactment of the PACE–Energy Act, the Director shall submit a report to the appropriate committees of Congress detailing the impact of the activities assisted with funds made available under this section.

''(i) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section—

''(1) $20,000,000 for fiscal year 2008;

''(2) $30,000,000 for fiscal year 2009;

''(3) $40,000,000 for fiscal year 2010; and

''(4) $50,000,000 for fiscal year 2011.

"CHAPTER 2—EXPERIENTIAL-BASED LEARNING OPPORTUNITIES

"SEC. 3175. EXPERIENTIAL-BASED LEARNING OPPORTUNITIES.

''(a) INTERNSHIPS AUTHORIZED.—

''(1) IN GENERAL.—From the amounts authorized under subsection (f), the Secretary, acting through the Director, shall establish a summer internship program for middle school and secondary school students that shall—

''(A) provide the students with internships at the National Laboratories; and

''(B) promote experiential, hands-on learning in mathematics or science.

''(2) RESIDENTIAL SERVICES.—The Director may provide residential services to students participating in the Internship authorized under this chapter.

''(b) SELECTION CRITERIA.—

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

''(2) PARTICIPATION.—The Director shall ensure the participation of students from a wide dis-

tribution of States, including States without National Laboratories.

''(c) PRIORITY.—

''(1) IN GENERAL.—The Director shall give priority for an internship under this section to a student who meets the eligibility criteria described in subsection (b) and who attends a school—

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

''(ii) that is designated with a school locale code of 6, 7, or 8, as determined by the Secretary of Education; and

''(B) for which there is—

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

''(ii) a high teacher turnover rate; or

''(iii) a high percentage of teachers with emergency, provisional, or temporary certification or licenses.

''(2) COORDINATION.—The Director shall consult with the Secretary of Education in order to de-

termine whether a student meets the priority requirements of this subsection.

"(d) OUTREACH AND EXPERIENTIAL-BASED PROGRAMS FOR MINORITY STUDENTS.—

"(1) IN GENERAL.—The Secretary, acting through the Director, in cooperation with Hispanic-serving institutions, historically Black colleges and universities, tribally controlled colleges and universities, Alaska Native- and Native Hawaiian-serving institutions, and other minority-serving institutions and nonprofit entities with substantial experience relating to outreach and experiential-based learning projects, shall establish outreach and experiential-based learning programs that will encourage underrepresented minority students in kindergarten through grade 12 to pursue careers in math, science, and engineering.

"(2) COMMUNITY INVOLVEMENT.—The Secretary shall ensure that the programs established under paragraph (1) involve, to the maximum extent practicable—

"(A) participation by parents and educators; and

''(B) the establishment of partnerships with business organizations and appropriate Federal, State, and local agencies.

''(3) DISTRIBUTION.—The Secretary shall ensure that the programs established under paragraph (1) are located in diverse geographic regions of the United States, to the maximum extent practicable.

''(e) EVALUATION AND ACCOUNTABILITY PLAN.—The Director shall develop an evaluation and accountability plan for the activities funded under this chapter that objectively measures the impact of the activities.

''(f) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $15,000,000 for each of fiscal years 2008 through 2011.

''CHAPTER 3—NATIONAL LABORATORIES CENTERS OF EXCELLENCE IN MATHEMATICS AND SCIENCE EDUCATION

''SEC. 3181. NATIONAL LABORATORIES CENTERS OF EXCELLENCE IN MATHEMATICS AND SCIENCE EDUCATION.

''(a) DEFINITION OF HIGH-NEED PUBLIC SECONDARY SCHOOL.—In this chapter, the term 'high-need public secondary school' means a secondary school—

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

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

''(2) designated with a school locale code of 6, 7, or 8, as determined by the Secretary of Education.

''(b) ESTABLISHMENT.—The Secretary shall establish at each of the National Laboratories a program to support a Center of Excellence in Mathematics and Science at 1 high-need public secondary school located in the region of the National Laboratory to provide assistance in accordance with subsection (f).

''(c) PARTNERSHIP.—Each high-need public secondary school selected as a Center of Excellence shall form a partnership with a department that provides training for teachers and principals at an institution of higher education for purposes of compliance with subsection (g).

''(d) SELECTION.—

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

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

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

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

''(1) assists teachers in teaching courses at the Centers of Excellence in Mathematics and Science; and

''(2) uses National Laboratory scientific equipment in the teaching of the courses.

''(g) SPECIAL RULE.—Each Center of Excellence shall ensure—

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

''(2) provision of supervision and mentoring for teacher candidates in the teacher preparation program; and

''(3) to the maximum extent practicable, provision of professional development for veteran teachers in the public secondary schools in the region.

''(h) EVALUATION.—The Secretary shall consider the results of performance assessments required under subsection (e) in determining the contract award fee of a National Laboratory management and operations contractor.

''(i) PLAN.—The Director shall—

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

''(2) disseminate information obtained from those measurements.

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

"CHAPTER 4—SUMMER INSTITUTES

"SEC. 3185. SUMMER INSTITUTES.

''(a) DEFINITIONS.—In this section:

''(1) ELIGIBLE PARTNER.—The term 'eligible partner' means—

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

cation that provides training for teachers and principals; or

"(B) a nonprofit entity with expertise in providing professional development for mathematics or science teachers.

"(2) SUMMER INSTITUTE.—The term 'summer institute' means an institute, conducted during the summer, that—

"(A) is conducted for a period of not less than 2 weeks;

"(B) includes, as a component, a program that provides direct interaction between students and faculty, including personnel of 1 or more National Laboratories who have scientific expertise; and

"(C) provides for follow-up training, during the academic year, that is conducted in the classroom.

"(b) SUMMER INSTITUTE PROGRAMS AUTHORIZED.—

"(1) PROGRAMS AT THE NATIONAL LABORATORIES.—The Secretary, acting through the Director, shall establish or expand programs of summer institutes at each of the National Laboratories to provide additional training to strengthen the mathe-

matics and science teaching skills of teachers employed at public schools for kindergarten through grade 12, in accordance with the activities authorized under subsections (c) and (d).

''(2) PROGRAMS WITH ELIGIBLE PARTNERS.—

''(A) IN GENERAL.—The Secretary, acting through the Director, shall identify and provide assistance to eligible partners to establish or expand programs of summer institutes that provide additional training to strengthen the mathematics and science teaching skills of teachers employed at public schools for kindergarten through grade 12, in accordance with the activities authorized under subsections (c) and (d).

''(B) ASSISTANCE.—Consistent with sections 3165 and 3166, the Director shall make available necessary funds for a program using scientific and engineering staff of the National Laboratories, during which the staff—

''(i) assists in providing training to teachers at summer institutes; and

''(ii) uses National Laboratory scientific equipment in the training.

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

more than 50 percent of the amounts authorized under subsection (h) for a fiscal year.

''(c) REQUIRED ACTIVITIES.—Each program authorized under subsection (b) shall—

''(1) create opportunities for enhanced and ongoing professional development for teachers that improves the mathematics and science content knowledge of such teachers;

''(2) include material pertaining to recent developments in mathematics and science pedagogy;

''(3) provide training on the use and integration of technology in the classroom;

''(4) directly relate to the curriculum and academic areas in which the teachers provide instruction;

''(5) enhance the ability of the teachers to understand and use the challenging State academic content standards for mathematics and science and to select appropriate curricula;

''(6) train teachers to use curricula that are—

''(A) based on scientific research;

''(B) aligned with challenging State academic content standards; and

''(C) object-centered, experiment-oriented, and concept- and content-based;

''(7) provide professional development activities, including supplemental and follow-up activities; and

''(8) allow for the exchange of best practices among the participants.

''(d) PERMISSIBLE ACTIVITIES.—A program authorized under subsection (b) may include—

''(1) a program that provides teachers with opportunities to work under the guidance of experienced teachers and college faculty;

''(2) instruction in the use and integration of data and assessments to inform and instruct classroom practice; and

''(3) extended master teacher programs.

''(e) PRIORITY.—To the maximum extent practicable, the Director shall ensure that each summer institute program authorized under subsection (b) provides training to—

''(1) teachers from a wide range of school districts;

''(2) teachers from disadvantaged school districts; and

''(3) teachers from groups underrepresented in the fields of mathematics and science teaching, including women and members of minority groups.

''(f) COORDINATION AND CONSULTATION.—The Director shall consult and coordinate with the Secretary of Education and the Director of the National Science Foundation regarding the implementation of the programs authorized under subsection (b).

''(g) EVALUATION AND ACCOUNTABILITY PLAN.—

''(1) IN GENERAL.—The Director shall develop an evaluation and accountability plan for the activities funded under this section that measures the impact of the activities.

''(2) CONTENTS.—The evaluation and accountability plan shall include—

''(A) measurable objectives to increase the number of mathematics and science teachers who participate in the summer institutes involved; and

''(B) measurable objectives for improved student academic achievement on State mathematics and science assessments.

''(3) REPORT TO CONGRESS.—The Secretary shall submit to Congress with the annual budget submission of the Secretary a report on how the activities assisted under this section improve the mathematics and science teaching skills of participating teachers.

''(h) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section—

''(1) $25,000,000 for fiscal year 2008;

''(2) $40,000,000 for fiscal year 2009;

''(3) $50,000,000 for fiscal year 2010; and

''(4) $75,000,000 for fiscal year 2011.

"CHAPTER 5—NUCLEAR SCIENCE EDUCATION

"SEC. 3191. NUCLEAR SCIENCE TALENT EXPANSION PROGRAM FOR INSTITUTIONS OF HIGHER EDUCATION.

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

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

''(2) to increase the number of graduates with degrees in nuclear science, an area of strategic importance to the economic competitiveness and energy security of the United States.

''(b) DEFINITION OF NUCLEAR SCIENCE.—In this section, the term 'nuclear science' includes—

''(1) nuclear science;

''(2) nuclear engineering;

''(3) nuclear chemistry;

''(4) radio chemistry; and

''(5) health physics.

''(c) ESTABLISHMENT.—The Secretary, acting through the Director, shall establish in accordance with this section a program to expand and enhance institution of higher education nuclear science educational capabilities.

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

''(1) IN GENERAL.—The Secretary, acting through the Director, shall award up to 3 competitive grants for each fiscal year to institutions of higher education that establish new academic degree programs in nuclear science.

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

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

''(A) the potential to attract new students to the program;

''(B) academic rigor; and

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

''(4) DURATION AND AMOUNT.—

''(A) DURATION.—A grant under this subsection shall be 5 years in duration.

''(B) AMOUNT.—An institution of higher education that receives a grant under this subsection shall be eligible for up to $1,000,000 for each year of the grant period.

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

''(A) recruit and retain new faculty;

''(B) develop core and specialized course content;

''(C) encourage collaboration between faculty and researchers in the nuclear science field; or

''(D) support outreach efforts to recruit students.

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

''(1) IN GENERAL.—The Secretary, acting through the Director shall award up to 10 competitive grants for each fiscal year to institutions of higher education with existing academic degree programs that produce graduates in nuclear science.

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

''(3) DURATION AND AMOUNT.—

''(A) DURATION.—A grant under this subsection shall be 5 years in duration.

''(B) AMOUNT.—An institution of higher education that receives a grant under this subsection shall be eligible for up to $500,000 for each year of the grant period.

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

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

''(B) enhance the teaching of advanced nuclear technologies;

''(C) aggressively pursue collaboration opportunities with industry and National Laboratories;

''(D) bolster or sustain nuclear infrastructure and research facilities of the institution of

higher education, such as research and training reactors or laboratories; and

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

''(f) AUTHORIZATION OF APPROPRIATIONS.—

''(1) NUCLEAR SCIENCE PROGRAM EXPANSION GRANTS FOR INSTITUTIONS OF HIGHER EDUCATION.—There are authorized to be appropriated to carry out subsection (d)—

''(A) $9,000,000 for fiscal year 2008;

''(B) $13,000,000 for fiscal year 2009;

''(C) $18,000,000 for fiscal year 2010; and

''(D) $22,500,000 for fiscal year 2011.

''(2) NUCLEAR SCIENCE COMPETITIVENESS GRANTS FOR INSTITUTIONS OF HIGHER EDUCATION.—There are authorized to be appropriated to carry out subsection (e)—

''(A) $11,000,000 for fiscal year 2008;

''(B) $16,500,000 for fiscal year 2009;

''(C) $22,000,000 for fiscal year 2010; and

''(D) $27,500,000 for fiscal year 2011.''.

SEC. 2004. DEPARTMENT OF ENERGY EARLY-CAREER RESEARCH GRANTS.

(a) PURPOSE.—It is the purpose of this section to authorize research grants in the Department for early-ca-

reer scientists and engineers for purposes of pursuing independent research.

(b) DEFINITION OF ELIGIBLE EARLY-CAREER RESEARCHER.—In this section, the term ''eligible early-career researcher'' means an individual who—

(1) completed a doctorate or other terminal degree not more than 10 years before the date of application for a grant authorized under this section, except as provided in subsection (c)(3); and

(2) has demonstrated promise in the field of science, technology, engineering, mathematics, computer science, or computational science.

(c) GRANT PROGRAM AUTHORIZED.—

(1) IN GENERAL.—The Secretary shall award not less than 65 grants per year to outstanding eligible early-career researchers to support the work of such researchers in the Department, particularly at the National Laboratories, or other federally-funded research and development centers.

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

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

(4) DURATION AND AMOUNT.—

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

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

(5) USE OF FUNDS.—An eligible early career-researcher who receives a grant under this section shall use the grant funds for basic research in natural sciences, engineering, mathematics, or computer sciences at the Department, particularly the National Laboratories, or other federally-funded research and development center.

(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section—

(A) $13,000,000 for fiscal year 2008;

(B) $19,500,000 for fiscal year 2009;

(C) $26,000,000 for fiscal year 2010; and

(D) $32,500,000 for fiscal year 2011.

SEC. 2005. ADVANCED RESEARCH PROJECTS AUTHORITY-ENERGY.

(a) DEFINITIONS.—In this section:

(1) ADVISORY BOARD.—The term ''Advisory Board'' means the Advisory Board established under subsection (d).

(2) AUTHORITY.—The term ''Authority'' means the Advanced Research Projects Authority—Energy established under subsection (b).

(3) DIRECTOR.—The term ''Director'' means the Director of the Authority appointed under subsection (c)(1).

(4) ENERGY TECHNOLOGY.—The term ''energy technology'' means technology, including carbon-neutral technology, used for—

(A) fossil energy;

(B) carbon sequestration;

(C) nuclear energy;

(D) renewable energy;

(E) energy distribution; or

(F) energy efficiency technology.

(b) ESTABLISHMENT.—The Secretary shall establish an Advanced Research Projects Authority-Energy to over-

come the long-term and high-risk technological barriers in the development of energy technologies.

(c) DIRECTOR.—

(1) APPOINTMENT.—The Secretary shall appoint a Director of the Authority.

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

(3) DUTIES.—The Director shall—

(A) employ such qualified technical staff as are necessary to carry out the duties of the Authority, including providing staff for the Advisory Committee;

(B) serve as the selection official for proposals relating to energy technologies that are solicited within the Department;

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

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

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

(d) ADVISORY BOARD.—

(1) APPOINTMENT.—The Secretary shall, consistent with the Federal Advisory Committee Act (5 U.S.C. App.), establish, and appoint members to, an Advisory Board to make recommendations to the Secretary and the Director on actions necessary to carry out this section.

(2) QUALIFICATIONS.—The Advisory Board shall consist of individuals who, by reason of professional background and experience, are especially qualified to advise the Secretary and the Director on matters pertaining to long-term and high-risk technological barriers in the development of energy technologies.

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

(4) INFORMATION.—Each fiscal year, individuals who carry out energy technology programs of

the Department and staff of the Authority shall provide to the Advisory Board written proposals and oral briefings on long-term and high-risk technological barriers that are critical to overcome for the successful development of energy technologies.

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

(A) recommend to the Secretary and the Director—

(i) in order of priority, proposals of energy programs of the Department that are critical to overcoming long-term and high-risk technological barriers to enable the successful development of energy technologies; and

(ii) additional programs not covered in the proposals that are critical to overcoming the barriers described in clause (i); and

(B) based on the metrics described in subsection (c)(3)(C), make recommendations to the Secretary and the Directory concerning whether programs funded under this section are achieving the goals of the programs.

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

(1) conduct reviews during each of calendar years 2010 and 2012 to determine the success of the activities carried out under this section; and

(2) submit to Congress, the Secretary, and the Director a report describing the results of each review.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section for each of fiscal years 2008 through 2011.

SEC. 2006. AUTHORIZATION OF APPROPRIATIONS FOR THE DEPARTMENT OF ENERGY FOR BASIC RESEARCH.

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

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

(2) in paragraph (3)—

(A) by striking ''$5,200,000,000'' and inserting ''$4,800,000,000''; and

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

(3) by adding at the end the following:

''(4) $4,945,000,000 for fiscal year 2010; and

''(5) $5,265,000,000 for fiscal year 2011.''.

SEC. 2007. DISCOVERY SCIENCE AND ENGINEERING INNOVATION INSTITUTES.

(a) IN GENERAL.—The Secretary shall establish distributed, multidisciplinary institutes (referred to in this section as ''Institutes'') centered at National Laboratories to apply fundamental science and engineering discoveries to technological innovations related to the missions of the Department and the global competitiveness of the United States.

(b) TOPICAL AREAS.—The Institutes shall support scientific and engineering research and education activities on critical emerging technologies determined by the Secretary to be essential to global competitiveness, including activities related to—

(1) sustainable energy technologies;

(2) multi-scale materials and processes;

(3) micro- and nano-engineering;

(4) computational and information engineering; and

(5) genomics and proteomics.

(c) PARTNERSHIPS.—In carrying out this section, the Secretary shall establish partnerships between the Institutes and—

(1) institutions of higher education to—

(A) train undergraduate and graduate engineering and science students;

(B) develop innovative educational curricula; and

(C) conduct research within the topical areas described in subsection (b);

(2) private industry to develop innovative technologies within the topical areas described in subsection (b);

(3) State and local governments to promote regionally-based commercialization and entrepreneurship; and

(4) financing entities to guide successful technology commercialization.

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

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

(f) REVIEW.—The Secretary shall enter into an agreement with the National Academy of Sciences under

which the Academy shall, not later than 3 and 6 years after the date of enactment of this Act—

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

(2) submit to Congress and the Secretary a report describing the results of the review.

(g) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out the activities of each Institute selected under this section $10,000,000 for each of fiscal years 2008 through 2011.

SEC. 2008. PROTECTING AMERICA'S COMPETITIVE EDGE (PACE) GRADUATE FELLOWSHIP PROGRAM.

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

(b) ESTABLISHMENT.—The Secretary shall establish a graduate fellowship program for eligible students pursuing a doctoral degree in a mission area of the Department.

(c) SELECTION.—

(1) IN GENERAL.—The Secretary shall award fellowships to eligible students under this section through a competitive merit review process (involv-

ing written and oral interviews) that will result in a wide distribution of awards throughout the United States.

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

(A) pursue a field of science or engineering of importance to the mission area of the Department;

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

(C) demonstrate to the Secretary—

(i) the capacity to understand technical topics related to the fellowship that can be derived from the first principles of the technical topics;

(ii) imagination and creativity;

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

(iv) excellent verbal and communication skills to explain, defend, and demonstrate an understanding of technical subjects related to the fellowship; and

(D) be a citizen or legal permanent resident of the United States.

(d) AWARDS.—

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

(A) provide an annual living stipend; and

(B) cover—

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

(ii) incidental expenses associated with curricula and research at the institution of higher education (including books, computers and software).

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

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

(e) ADMINISTRATION.—The Secretary (acting through the Director of Mathematics, Science, and Engineering Education)—

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

(2) may enter into a contract with a nonprofit entity to administer the program, including the selection and award of fellowships.

(f) AUTHORIZATION OF APPROPRIATIONS.—

(1) FELLOWSHIPS.—There are authorized to be appropriated to award fellowships under this section—

(A) $9,300,000 for 200 fellowships for fiscal year 2008;

(B) $14,500,000 for 300 fellowships for fiscal year 2009 (including non-expiring fellowships for prior fiscal years);

(C) $25,000,000 for 500 fellowships for fiscal year 2010 (including non-expiring fellowships for prior fiscal years); and

(D) $35,500,000 for 700 fellowships for fiscal year 2011 (including non-expiring fellowships for prior fiscal years).

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

(A) $1,000,000 for fiscal year 2008;

(B) $1,500,000 for fiscal year 2009;

(C) $2,500,000 for fiscal year 2010; and

(D) $3,500,000 for fiscal year 2011.

SEC. 2009. TITLE IX COMPLIANCE.

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

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

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

(a) DEFINITION OF HIGH-RISK, HIGH-REWARD RESEARCH.—In this section, the term ''high-risk, high reward research'' means research that—

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

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

(3) is supportive of the missions of the sponsoring agency.

(b) ESTABLISHMENT OF GRANT PROGRAMS.—

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

(2) GEOLOGICAL GRANT PROGRAM.—The Director of the United States Geological Survey shall establish a grant program to encourage the conduct of high-risk, high-reward research at the United States Geological Survey.

SEC. 2011. DISTINGUISHED SCIENTIST PROGRAM.

(a) PURPOSE.—The purpose of this section is to promote scientific and academic excellence through collaborations between institutions of higher education and the National Laboratories.

(b) ESTABLISHMENT.—The Secretary shall establish a program to support the joint appointment of distinguished scientists by institutions of higher education and National Laboratories.

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

(d) SELECTION.—A distinguished scientist appointed under this section shall be selected through an open, competitive process.

(e) APPOINTMENT.—

(1) INSTITUTION OF HIGHER EDUCATION.—An appointment by an institution of higher education under this section shall be filled within the tenure allotment of the institution of higher education at a minimum rank of professor.

(2) NATIONAL LABORATORY.—An appointment by a National Laboratory under this section shall be at the rank of the highest grade of distinguished scientist or technical staff of the National Laboratory.

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

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

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

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

(3) research-related equipment;

(4) professional travel; and

(5) such other requirements as the Director determines are necessary to carry out the purpose of the program.

(h) REVIEW.—

(1) IN GENERAL.—The appointment of a distinguished scientist under this section shall be reviewed at the end of the first 3-year allotment for the distinguished scientist through an open peer-review process to determine whether the appointment is meeting the purpose of this section under subsection (a).

(2) FUNDING.—Funding of the appointment of the distinguished scientist for the second 3-year allotment shall be determined based on the review conducted under paragraph (1).

(i) COST SHARING.—To be eligible for assistance under this section, an appointing institution of higher education shall pay at least 50 percent of the total costs of the appointment.

(j) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section—

(1) $30,000,000 for fiscal year 2008 (to support up to 30 appointments under this section);

(2) $60,000,000 for fiscal year 2009 (to support up to 60 such appointments); and

(3) $100,000,000 for each of fiscal years 2010 and 2011 (to support up to 100 such appointments).

DIVISION C—EDUCATION

SEC. 3001. FINDINGS.

Congress makes the following findings:

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

(2) The United States needs to build on and expand the impact of existing programs by taking additional, well-coordinated steps to ensure that all students are able to obtain the knowledge the students need to obtain postsecondary education and participate successfully in the workforce or the Armed Forces.

(3) The next steps must be informed by independent information on the effectiveness of current programs in science, technology, engineering, and mathematics education, and by identification of best practices that can be replicated.

(4) Teacher preparation and elementary school and secondary school programs and activities must be aligned with the requirements of the Elementary

and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq.) and the requirements of the Higher Education Act of 1965 (20 U.S.C. 1001 et seq.).

(5) The ever increasing knowledge and skill demands of the 21st century require that secondary school preparation and requirements be better aligned with the knowledge and skills needed to succeed in postsecondary education and the workforce, and States need better data systems to track educational achievement from prekindergarten through baccalaureate degrees.

SEC. 3002. DEFINITIONS.

(a) ESEA DEFINITIONS.—Unless otherwise specified in this division, the terms used in this division have the meanings given the terms in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

(b) OTHER DEFINITIONS.—In this division:

(1) CRITICAL FOREIGN LANGUAGE.—The term ''critical foreign language'' means a foreign language that the Secretary determines, in consultation with the heads of such Federal departments and agencies as the Secretary determines appropriate, is critical to the national security and economic competitiveness of the United States.

(2) SECRETARY.—The term ''Secretary'' means the Secretary of Education.

TITLE I—TEACHER ASSISTANCE

Subtitle A—Teachers for a Competitive Tomorrow

SEC. 3111. PURPOSE.

The purpose of this subtitle is—

(1) to develop and implement programs to provide integrated courses of study in mathematics, science, engineering, or critical foreign languages, and teacher education, that lead to a baccalaureate degree with concurrent teacher certification; and

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

SEC. 3112. DEFINITIONS.

In this subtitle:

(1) CHILDREN FROM LOW-INCOME FAMILIES.—The term ''children from low-income families'' means children described in section 1124(c)(1)(A) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6333(c)(1)(A)).

(2) ELIGIBLE RECIPIENT.—The term ''eligible recipient'' means an institution of higher education that receives grant funds under this subtitle on behalf of a department of mathematics, engineering, science, or critical foreign language for use in carrying out activities assisted under this subtitle.

(3) HIGH-NEED LOCAL EDUCATIONAL AGENCY.—The term ''high-need local educational agency'' means a local educational agency or educational service agency—

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

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

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

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

(ii) for which there is a high teacher turnover rate or a high percentage of teachers with emergency, provisional, or temporary certification or licensure.

(4) HIGHLY QUALIFIED.—The term ''highly qualified'' has the meaning given such term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801) and, with respect to special education teachers, in section 602 of the Individuals with Disabilities Education Act (20 U.S.C. 1401).

(5) PARTNERSHIP.—The term ''partnership'' means a partnership that—

(A) shall include—

(i) an eligible recipient;

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

(iii)(I) a school or department within the eligible recipient that provides a teacher preparation program; or

(II) a 2-year institution of higher education that has a teacher preparation offer-

ing or a dual enrollment program with the eligible recipient; and

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

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

(6) TEACHING SKILLS.—The term ''teaching skills'' means the ability to—

(A) increase student achievement;

(B) effectively convey and explain academic subject matter;

(C) employ strategies that—

(i) are based on scientifically based research;

(ii) are specific to academic subject matter; and

(iii) focus on the identification of, and tailoring of academic instruction to, students' specific learning needs, particularly children with disabilities, students who are limited English proficient, and students who are gifted and talented;

(D) conduct ongoing assessment of student learning;

(E) effectively manage a classroom; and

(F) communicate and work with parents and guardians, and involve parents and guardians in their children's education.

SEC. 3113. PROGRAMS FOR BACCALAUREATE DEGREES IN MATHEMATICS, SCIENCE, ENGINEERING, OR CRITICAL FOREIGN LANGUAGES, WITH CONCURRENT TEACHER CERTIFICATION.

(a) PROGRAM AUTHORIZED.—From the amounts made available to carry out this section under section 3116(1) and not reserved under section 3115(d) for a fiscal year, the Secretary is authorized to award grants, on a competitive basis, to eligible recipients to enable partnerships served by the eligible recipients to develop and implement programs to provide courses of study in mathematics, science, engineering, or critical foreign languages that—

(1) are integrated with teacher education; and

(2) lead to a baccalaureate degree with concurrent teacher certification.

(b) APPLICATION.—Each eligible recipient desiring a grant under this section shall submit an application to the

Secretary at such time and in such manner as the Secretary may require. Each application shall—

(1) describe the program for which assistance is sought;

(2) describe how a department of mathematics, science, engineering, or a critical foreign language participating in the partnership will ensure significant collaboration with a teacher preparation program in the development of undergraduate degrees in mathematics, science, engineering, or a critical foreign language, with concurrent teacher certification, including providing student teaching and other clinical classroom experiences;

(3) describe the high-quality research, laboratory, or internship experiences, integrated with coursework, that will be provided under the program;

(4) describe how members of groups that are underrepresented in the teaching of mathematics, science, or critical foreign languages will be encouraged to participate in the program;

(5) describe how program participants will be encouraged to teach in schools determined by the partnership to be most in need, and what assistance

in finding employment in such schools will be provided;

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

(7) describe how the activities of the partnership will be coordinated with any activities funded through other Federal grants, and how the partnership will continue the activities assisted under the program when the grant period ends;

(8) describe how the partnership will assess the content knowledge and teaching skills of the program participants; and

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

(c) AUTHORIZED ACTIVITIES.—

(1) IN GENERAL.—Each eligible recipient receiving a grant under this section shall use the grant funds to enable a partnership to develop and implement a program to provide courses of study in mathematics, science, engineering, or a critical foreign language that—

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

(B) lead to a baccalaureate degree in mathematics, science, engineering, or a critical foreign language with concurrent teacher certification.

(2) PROGRAM REQUIREMENTS.—The program shall—

(A) provide high-quality research, laboratory, or internship experiences for program participants;

(B) provide student teaching or other clinical classroom experiences that—

(i) are integrated with coursework; and

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

(C) if implementing a program in which program participants are prepared to teach mathematics or science courses, include strategies for improving student literacy;

(D) encourage the participation of individuals who are members of groups that are underrepresented in the teaching of mathematics, science or critical foreign languages;

(E) encourage participants to teach in schools determined by the partnership to be

most in need, and actively assist the participants in finding employment in such schools;

(F) offer training in the use of and integration of educational technology;

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

(i) increasing the percentage of highly qualified mathematics, science, or critical foreign language teachers, including increasing the percentage of such teachers teaching in those schools determined by the partnership to be most in need;

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

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

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

(H) collect data on the employment placement of all graduates of the program, including

information on how many graduates are teaching and in what kinds of schools;

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

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

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

(I) induction programs;

(II) promotion of effective teaching skills; and

(III) providing opportunities for regular professional development; and

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

(d) ANNUAL REPORT.—Each eligible recipient receiving a grant under this section shall collect and report to

the Secretary annually such information as the Secretary may reasonably require, including—

(1) the number of participants in the program;

(2) information on the academic majors of participating students;

(3) the race, gender, income, and disability status of program participants;

(4) the employment placement of program participants as teachers in schools determined by the partnership to be most in need;

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

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

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

SEC. 3114. PROGRAMS FOR MASTER'S DEGREES IN MATHEMATICS, SCIENCE, OR CRITICAL FOREIGN LANGUAGES EDUCATION.

(a) PROGRAM AUTHORIZED.—From the amounts made available to carry out this section under section 3116(2) and not reserved under section 3115(d) for a fiscal year, the Secretary is authorized to award grants, on a competitive basis, to eligible recipients to enable the partnerships served by the eligible recipients to develop and implement 2- or 3-year part-time master's degree programs in mathematics, science, or critical foreign language education for teachers in order to enhance the teacher's content knowledge and teaching skills.

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

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

(2) the role of the local educational agency in the partnership in developing and administering the

program and how feedback from the local educational agency, school, and participants will be used to improve the program;

(3) how the program will help increase the percentage of highly qualified mathematics, science, or critical foreign language teachers, including increasing the percentage of such teachers teaching in schools determined by the partnership to be most in need;

(4) how the program will—

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

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

(5) how the program will prepare teachers to become more effective mathematics, science, or critical foreign language teachers;

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

(7) how teachers who are members of groups that are underrepresented in the teaching of mathe-

matics, science, or critical foreign languages and teachers from schools determined by the partnership to be most in need will be encouraged to apply for and participate in the program;

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

(9) how the partnership will continue the activities assisted under the grant when the grant period ends; and

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

(c) AUTHORIZED ACTIVITIES.—Each eligible recipient receiving a grant under this section shall use the grant funds to develop and implement a 2- or 3-year part-time master's degree program in mathematics, science, or critical foreign language education for teachers in order to enhance the teachers' content knowledge and teaching skills. The program shall—

(1) promote effective teaching skills so the teachers participating in the program become more effective mathematics, science, or critical foreign language teachers;

(2) prepare teachers to assume leadership roles in their schools by participating in activities such as

teacher mentoring, development of curricula that integrate state of the art applications of mathematics and science into the classroom, working with school administrators in establishing in-service professional development of teachers, and assisting in evaluating data and assessments to improve student academic achievement;

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

(4) provide student teaching or clinical classroom experience;

(5) if implementing a program in which participants are prepared to teach mathematics or science courses, provide strategies for improving student literacy;

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

(7) encourage the participation of—

(A) individuals who are members of groups that are underrepresented in the teaching of

mathematics, science, or critical foreign languages; and

(B) teachers teaching in schools determined by the partnership to be most in need;

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

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

(d) EVALUATION AND REPORT.—Each eligible recipient receiving a grant under this section shall evaluate, using measurable objectives and benchmarks, and provide an annual report to the Secretary regarding, the extent to which the program assisted under this section succeeded in increasing the following:

(1) The number and percentage of mathematics, science, or critical foreign language teachers who have a master's degree and meet 1 or more of the following requirements:

(A) Are teaching in schools determined by the partnership to be most in need, and taught in such schools prior to participation in the program.

(B) Are teaching in schools determined by the partnership to be most in need, and did not

teach in such schools prior to participation in the program.

(C) Are members of a group underrepresented in the teaching of mathematics, science, or a critical foreign language.

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

SEC. 3115. GENERAL PROVISIONS.

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

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

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

(d) EVALUATION.—From amounts made available for any fiscal year under section 3116, the Secretary shall reserve such sums as may be necessary—

(1) to provide for the conduct of an annual independent evaluation, by grant or by contract, of

the activities assisted under this subtitle, which shall include an assessment of the impact of the activities on student academic achievement; and

(2) to prepare and submit an annual report on the results of the evaluation described in paragraph (1) to the Committee on Health, Education, Labor, and Pensions of the Senate, the Committee on Education and the Workforce of the House of Representatives, and the Committees on Appropriations of the Senate and House of Representatives.

SEC. 3116. AUTHORIZATION OF APPROPRIATIONS.

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

(1) 57.1 percent shall be available to carry out section 3113 for fiscal year 2008 and each succeeding fiscal year; and

(2) 42.9 percent shall be available to carry out section 3114 for fiscal year 2008 and each succeeding fiscal year.

Subtitle B—Advanced Placement and International Baccalaureate Programs

SEC. 3121. PURPOSE.

It is the purpose of this subtitle—

(1) to raise academic achievement through Advanced Placement and International Baccalaureate programs by increasing, by 70,000, over a 4-year period beginning in 2008, the number of teachers serving high-need schools who are qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science, and critical foreign languages;

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

(A) take and score a 3, 4, or 5 on an Advanced Placement examination in mathematics, science, or a critical foreign language administered by the College Board; or

(B) achieve a passing score on an examination administered by the International Baccalaureate Organization in such a subject;

(3) to increase the availability of, and enrollment in, Advanced Placement or International Baccalaureate courses in mathematics, science, and crit-

ical foreign languages, and pre-Advanced Placement or pre-International Baccalaureate courses in such subjects, in high-need schools; and

(4) to support statewide efforts to increase the availability of, and enrollment in, Advanced Placement or International Baccalaureate courses in mathematics, science, and critical foreign languages, and pre-Advanced Placement or pre-International Baccalaureate courses in such subjects, in high-need schools.

SEC. 3122. DEFINITIONS.

In this subtitle:

(1) ADVANCED PLACEMENT OR INTERNATIONAL BACCALAUREATE COURSE.—The term ''Advanced Placement or International Baccalaureate course'' means a course of college-level instruction provided to middle or secondary school students, terminating in an examination administered by the College Board or the International Baccalaureate Organization, or another such examination approved by the Secretary.

(2) ELIGIBLE ENTITY.—The term ''eligible entity'' means—

(A) a State educational agency;

(B) a local educational agency; or

(C) a partnership consisting of—

(i) a national, regional, or statewide nonprofit organization, with expertise and experience in providing Advanced Placement or International Baccalaureate services; and

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

(3) LOW-INCOME STUDENT.—The term ''low-income student'' has the meaning given the term ''low-income individual'' in section 1707(3) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6537(3)).

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

(5) HIGH-NEED LOCAL EDUCATIONAL AGENCY.—The term ''high-need local educational agency'' means a local educational agency or educational service agency described in 3112(3)(A).

(6) HIGH-NEED SCHOOL.—The term ''high-need school'' means a middle school or secondary school—

(A) with a pervasive need for Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages, or for additional Advanced Placement or International Baccalaureate courses in such a subject; and

(B)(i) with a high concentration of low-income students; or

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

SEC. 3123. ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS.

(a) PROGRAM AUTHORIZED.—From the amounts appropriated under subsection (l), the Secretary is authorized to award grants, on a competitive basis, to eligible entities to enable the eligible entities to carry out the authorized activities described in subsection (g).

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

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

(d) PRIORITY.—In awarding grants under this section, the Secretary shall give priority to eligible entities that are part of a statewide strategy for increasing the availability of Advanced Placement or International Baccalaureate courses in mathematics, science, and critical foreign languages, and pre-Advanced Placement or pre-International Baccalaureate courses in such subjects, in high-need schools.

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

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

(2) promote an increase in participation in Advanced Placement or International Baccalaureate mathematics, science, and critical foreign language courses and examinations in all States.

(f) APPLICATION.—

(1) IN GENERAL.—Each eligible entity desiring a grant under this section shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may reasonably require.

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

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

(i) increasing the number of teachers serving high-need schools who are qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages;

(ii) increasing the number of qualified teachers serving high-need schools who are teaching Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages to students in the high-need schools;

(iii) increasing the number of Advanced Placement or International Baccalaureate courses in mathematics, science, and critical foreign languages that are available to students attending high-need schools; and

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

(I) Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages; and

(II) pre-Advanced Placement or pre-International Baccalaureate courses in such a subject (where provided in accordance with subparagraph (B));

(B) how the eligible entity will ensure that students have access to courses, including pre-Advanced Placement and pre-International Baccalaureate courses, that will prepare the students to enroll and succeed in Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages;

(C) how the eligible entity will provide professional development for teachers assisted under this section;

(D) how the eligible entity will ensure that teachers serving high-need schools are qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages;

(E) how the eligible entity will provide for the involvement of business and community organizations and other entities, including institutions of higher education, in the activities to be assisted; and

(F) how the eligible entity will use funds received under this section, including how the eligible entity will evaluate the success of its project.

(g) AUTHORIZED ACTIVITIES.—

(1) IN GENERAL.—Each eligible entity that receives a grant under this section shall use the grant funds to carry out activities designed to increase—

(A) the number of qualified teachers serving high-need schools who are teaching Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages; and

(B) the number of students attending high-need schools who enroll in, and pass, the examinations for such Advanced Placement or International Baccalaureate courses.

(2) PERMISSIVE ACTIVITIES.—The activities described in paragraph (1) may include—

(A) teacher professional development, in order to expand the pool of teachers in the participating State, local educational agency, or high-need school who are qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages;

(B) pre-Advanced Placement or pre-International Baccalaureate course development and professional development;

(C) coordination and articulation between grade levels to prepare students to enroll and succeed in Advanced Placement or International Baccalaureate courses in mathematics, science, or critical foreign languages;

(D) purchase of instructional materials;

(E) activities to increase the availability of, and participation in, online Advanced Placement or International Baccalaureate courses in mathematics, science, and critical foreign languages;

(F) reimbursing low-income students attending high-need schools for part or all of the cost of Advanced Placement or International Baccalaureate examination fees;

(G) carrying out subsection (j), relating to collecting and reporting data;

(H) in the case of a State educational agency that receives a grant under this section, awarding subgrants to local educational agencies to enable the local educational agencies to carry out authorized activities described in subparagraphs (A) through (G); and

(I) providing salary increments or bonuses to teachers serving high-need schools who—

(i) become qualified to teach, and teach, Advanced Placement or International Baccalaureate courses in mathematics, science, or a critical foreign language; or

(ii) increase the number of low-income students, who take Advanced Placement or International Baccalaureate examinations in mathematics, science, or a critical foreign language with the goal of successfully passing such examinations.

(h) MATCHING REQUIREMENT.—

(1) IN GENERAL.—Subject to paragraph (2), each eligible entity that receives a grant under this section shall provide, toward the cost of the activities

assisted under the grant, from non-Federal sources, an amount equal to 200 percent of the amount of the grant, except that an eligible entity that is a high-need local educational agency shall provide an amount equal to not more than 100 percent of the amount of the grant.

(2) WAIVER.—The Secretary may waive all or part of the matching requirement described in paragraph (1) for any fiscal year for an eligible entity described in subparagraph (A) or (B) of section 3122(2), if the Secretary determines that applying the matching requirement to such eligible entity would result in serious hardship or an inability to carry out the authorized activities described in subsection (g).

(i) SUPPLEMENT NOT SUPPLANT.—Grant funds provided under this section shall be used to supplement, not supplant, other Federal and non-Federal funds available to carry out the activities described in subsection (g).

(j) COLLECTING AND REPORTING REQUIREMENTS.—

(1) REPORT.—Each eligible entity receiving a grant under this section shall collect and report to the Secretary annually such data on the results of the grant as the Secretary may reasonably require, including data regarding—

(A) the number of students enrolling in Advanced Placement or International Baccalaureate courses in mathematics, science, or a critical foreign language, and pre-Advanced Placement or pre-International Baccalaureate courses in such a subject, and the distribution of grades those students receive;

(B) the number of students taking Advanced Placement or International Baccalaureate examinations in mathematics, science, or a critical foreign language, and the distribution of scores on those examinations;

(C) the number of teachers receiving training in teaching Advanced Placement or International Baccalaureate courses in mathematics, science, or a critical foreign language who will be teaching such courses in the next school year;

(D) the number of teachers becoming qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science, or a critical foreign language; and

(E) the number of qualified teachers who are teaching Advanced Placement or International Baccalaureate courses in mathematics,

science, or critical foreign languages to students in a high-need school.

(2) REPORTING OF DATA.—Each eligible entity receiving a grant under this section shall report data required under paragraph (1)—

(A) disaggregated by subject area;

(B) in the case of student data, disaggregated in the same manner as information is disaggregated under section 1111(h)(1)(C)(i) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(h)(1)(C)(i)); and

(C) to the extent feasible, in a manner that allows comparison of conditions before, during, and after the project.

(k) EVALUATION AND REPORT.—From the amount made available for any fiscal year under subsection (l), the Secretary shall reserve such sums as may be necessary—

(1) to conduct an annual independent evaluation, by grant or by contract, of the program carried out under this section, which shall include an assessment of the impact of the program on student academic achievement; and

(2) to prepare and submit an annual report on the results of the evaluation described in paragraph (1) to the Committee on Health, Education, Labor, and Pensions of the Senate, the Committee on Education and the Workforce of the House of Representatives, and the Committees on Appropriations of the Senate and House of Representatives.

(l) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $58,000,000 for fiscal year 2008, and such sums as may be necessary for each of the 3 succeeding fiscal years.

TITLE II—MATH NOW

SEC. 3201. MATH NOW FOR ELEMENTARY SCHOOL AND MIDDLE SCHOOL STUDENTS PROGRAM.

(a) PURPOSE.—The purpose of this section is to enable all students to reach or exceed grade-level academic achievement standards and to prepare the students to enroll in and pass algebra courses by—

(1) improving instruction in mathematics for students in kindergarten through grade 9 through the implementation of mathematics programs and the support of comprehensive mathematics initiatives that are based on the best available evidence of effectiveness; and

(2) providing targeted help to low-income students who are struggling with mathematics and whose achievement is significantly below grade level.

(b) DEFINITION OF ELIGIBLE LOCAL EDUCATIONAL AGENCY.—In this section, the term ''eligible local educational agency'' means a high-need local educational agency (as defined in section 3112(3)) serving 1 or more schools—

(1) with significant numbers or percentages of students whose mathematics skills are below grade level;

(2) that are not making adequate yearly progress in mathematics under section 1111(b)(2) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b)(2)); or

(3) in which students are receiving instruction in mathematics from teachers who do not have mathematical content knowledge or expertise in the teaching of mathematics.

(c) PROGRAM AUTHORIZED.—

(1) IN GENERAL.—From the amounts appropriated under subsection (k) for any fiscal year, the Secretary is authorized to award grants, on a competitive basis, for not more than 5 years, to State educational agencies to enable the State educational

agencies to award grants to eligible local educational agencies to carry out the activities described in subsection (e).

(2) PRIORITY.—In awarding grants under this section, the Secretary shall give priority to applications for projects that will implement statewide strategies for improving mathematics instruction and raising the mathematics achievement of students, particularly students in grades 4 through 8.

(d) STATE USES OF FUNDS.—

(1) IN GENERAL.—Each State educational agency that receives a grant under this section for a fiscal year—

(A) shall expend not more than a total of 10 percent of the grant funds to carry out the activities described in paragraphs (2) or (3) for the fiscal year; and

(B) shall use not less than 90 percent of the grant funds to award grants, on a competitive basis, to eligible local educational agencies to enable the eligible local educational agencies to carry out the activities described in subsection (e) for the fiscal year.

(2) MANDATORY USES OF FUNDS.—A State educational agency shall use the grant funds made

available under paragraph (1)(A) to carry out each of the following activities:

(A) PLANNING AND ADMINISTRATION.—Planning and administration, including—

(i) evaluating applications from eligible local educational agencies using peer review teams described in subsection (f)(1)(D);

(ii) administering the distribution of grants to eligible local educational agencies; and

(iii) assessing and evaluating, on a regular basis, eligible local educational agency activities assisted under this section, with respect to whether the activities have been effective in increasing the number of children—

(I) making progress toward meeting grade-level mathematics achievement; and

(II) meeting or exceeding grade-level mathematics achievement.

(B) REPORTING.—Annually providing the Secretary with a report on the implementation of this section as described in subsection (i).

(3) PERMISSIVE USE OF FUNDS; TECHNICAL ASSISTANCE.—

(A) IN GENERAL.—A State educational agency may use the grant funds made available under paragraph (1)(A) for 1 or more of the following technical assistance activities that assist an eligible local educational agency, upon request by the eligible local educational agency, in accomplishing the tasks required to design and implement a project under this section, including assistance in—

(i) selecting and implementing a program of mathematics instruction, or materials and interventions, based on the best available evidence of effectiveness;

(ii) evaluating and selecting diagnostic and classroom based instructional mathematics assessments; and

(iii) identifying eligible professional development providers to conduct the professional development activities described in subsection (e)(1)(B).

(B) GUIDANCE.—The technical assistance described in subparagraph (A) shall be guided by researchers with expertise in the pedagogy of

mathematics, mathematicians, and mathematics educators from high-risk, high-achievement schools and eligible local educational agencies.

(e) LOCAL USES OF FUNDS.—

(1) MANDATORY USES OF FUNDS.—Each eligible local educational agency receiving a grant under this section shall use the grant funds to carry out each of the following activities:

(A) To implement mathematics instructional materials and interventions (including intensive and systematic instruction)—

(i) for students in the grades of a participating school as identified in the application submitted under subsection (f)(2)(A); and

(ii) that are based on the best available evidence of effectiveness.

(B) To provide professional development and instructional leadership activities for teachers and, if appropriate, for administrators and other school staff, on the implementation of comprehensive mathematics initiatives designed—

(i) to improve the achievement of students performing significantly below grade level;

(ii) to improve the mathematical content knowledge of the teachers, administrators, and other school staff;

(iii) to increase the use of effective instructional practices; and

(iv) to monitor student progress.

(C) To conduct continuous progress monitoring, which may include the adoption and use of assessments that—

(i) measure student progress and identify areas in which students need help in learning mathematics; and

(ii) reflect mathematics content that is consistent with State academic achievement standards in mathematics described in section 1111(b) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b)).

(2) PERMISSIVE USES OF FUNDS.—An eligible local educational agency may use grant funds under this section to—

(A) adopt and use mathematics instructional materials and assessments;

(B) implement classroom-based assessments, including diagnostic or formative assessments;

(C) provide remedial coursework and interventions for students, which may be provided before or after school;

(D) provide small groups with individualized instruction in mathematics;

(E) conduct activities designed to improve the content knowledge and expertise of teachers, such as the use of a mathematics coach, enrichment activities, and interdisciplinary methods of mathematics instruction; and

(F) collect and report performance data.

(f) APPLICATIONS.—

(1) STATE EDUCATIONAL AGENCY.—Each State educational agency desiring a grant under this section shall submit an application to the Secretary at such time and in such manner as the Secretary may require. Each application shall include—

(A) an assurance that the core mathematics instructional materials or program, supplemental instructional materials, and interven-

tion programs used by the eligible local educational agencies for the project, are based on the best available evidence of effectiveness and are aligned with State academic achievement standards;

(B) an assurance that eligible local educational agencies will meet the requirements described in paragraph (2);

(C) an assurance that local applications will be evaluated using a peer review process; and

(D) a description of the qualifications of the peer review teams, which shall consist of—

(i) researchers with expertise in the pedagogy of mathematics;

(ii) mathematicians; and

(iii) mathematics educators serving high-risk, high-achievement schools and eligible local educational agencies.

(2) ELIGIBLE LOCAL EDUCATIONAL AGENCY.—Each eligible local educational agency desiring a grant under this section shall submit an application to the State educational agency at such time and in such manner as the State educational agency may require. Each application shall include—

(A) an assurance that the eligible local educational agency will provide assistance to 1 or more schools that are—

(i) served by the eligible local educational agency; and

(ii) described in section 3201(b);

(B) a description of the grades kindergarten through grade 9, and of the schools, that will be served;

(C) information, on an aggregate basis, on each school to be served by the project, including such demographic, socioeconomic, and mathematics achievement data as the State educational agency may request;

(D) a description of the core mathematics instructional materials or program, supplemental instructional materials, and intervention programs or strategies that will be used for the project, including an assurance that the programs or strategies and materials are based on the best available evidence of effectiveness and are aligned with State academic achievement standards;

(E) a description of the activities that will be carried out under the grant, including a de-

scription of the professional development that will be provided to teachers, and, if appropriate, administrators and other school staff, and a description of how the activities will support achievement of the purpose of this section;

(F) an assurance that the eligible local educational agency will report to the State educational agency all data on student academic achievement that is necessary for the State educational agency's report under subsection (i);

(G) a description of the eligible entity's plans for evaluating the impact of professional development and leadership activities in mathematics on the content knowledge and expertise of teachers, administrators, or other school staff; and

(H) any other information the State educational agency may reasonably require.

(g) PROHIBITION ON ENDORSEMENT OF CURRICULUM.—

(1) IN GENERAL.—In implementing this section, the Secretary shall not—

(A) endorse, approve, or sanction any mathematics curriculum designed for use in any school; or

(B) engage in oversight, technical assistance, or activities that will require the adoption of a specific mathematics program or instructional materials by a State, local educational agency, or school.

(2) RULE OF CONSTRUCTION.—Nothing in this title shall be construed to authorize or permit the Department of Education, or a Department of Education contractor, to mandate, direct, control, or suggest the selection of a mathematics curriculum, supplemental instructional materials, or program of instruction by a State, local educational agency, or school.

(h) MATCHING REQUIREMENTS.—

(1) STATE EDUCATIONAL AGENCY.—A State educational agency that receives a grant under this section shall provide, from non-Federal sources, an amount equal to 50 percent of the amount of the grant, in cash or in kind, to carry out the activities supported by the grant, of which not more than 20 percent of such 50 percent may be provided by local educational agencies within the State.

(2) WAIVER.—The Secretary may waive all of or a portion of the matching requirement described

in paragraph (1) for any fiscal year, if the Secretary determines that—

(A) the application of the matching requirement will result in serious hardship for the State educational agency; or

(B) providing a waiver best serves the purpose of the program assisted under this section.

(i) PROGRAM PERFORMANCE AND ACCOUNTABILITY.—

(1) INFORMATION.—Each State educational agency receiving a grant under this section shall collect and report to the Secretary annually such information on the results of the grant as the Secretary may reasonably require, including information on—

(A) mathematics achievement data that show the progress of students participating in projects under this section (including, to the extent practicable, comparable data from students not participating in such projects), based primarily on the results of State, school district wide, or classroom-based, assessments, including—

(i) specific identification of those schools and eligible local educational agen-

cies that report the largest gains in mathematics achievement; and

(ii) evidence on whether the State educational agency and eligible local educational agencies within the State have—

(I) significantly increased the number of students achieving at grade level or above in mathematics;

(II) significantly increased the percentages of students described in section 1111(b)(2)(C)(v)(II) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b)(2)(C)(v)(II)) who are achieving at grade level or above in mathematics;

(III) significantly increased the number of students making significant progress toward meeting grade-level mathematics achievement standards; and

(IV) successfully implemented this section;

(B) the percentage of students in the schools served by the eligible local educational

agency who enroll in algebra courses and the percentage of such students who pass algebra courses; and

(C) the progress made in increasing the quality and accessibility of professional development and leadership activities in mathematics, especially activities resulting in greater content knowledge and expertise of teachers, administrators, and other school staff, except that the Secretary shall not require such information until after the third year of a grant awarded under this section.

(2) REPORTING AND DISAGGREGATION.—The information required under paragraph (1) shall be—

(A) reported in a manner that allows for a comparison of aggregated score differentials of student academic achievement before (to the extent feasible) and after implementation of the project assisted under this section; and

(B) disaggregated in the same manner as information is disaggregated under section 1111(h)(1)(C)(i) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(h)(1)(C)(i)).

(3) PRIVACY PROTECTION.—The data in the report shall be reported in a manner that—

(A) protects the privacy of individuals; and

(B) complies with the requirements of the Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g).

(j) EVALUATION AND TECHNICAL ASSISTANCE.—

(1) EVALUATION.—

(A) IN GENERAL.—The Secretary shall conduct an annual independent evaluation, by grant or by contract, of the program assisted under this section, which shall include an assessment of the impact of the program on student academic achievement and teacher performance, and may use funds available to carry out this section to conduct the evaluation.

(B) REPORT.—The Secretary shall annually submit, to the Committee on Health, Education, Labor, and Pensions of the Senate, the Committee on Education and the Workforce of the House of Representatives, and the Committees on Appropriations of the Senate and House of Representatives, a report on the results of the evaluation.

(2) TECHNICAL ASSISTANCE.—The Secretary may use funds made available under paragraph (3) to provide technical assistance to prospective applicants and to eligible local educational agencies receiving a grant under this section.

(3) RESERVATION OF FUNDS.—The Secretary may reserve not more than 2.5 percent of funds appropriated under subsection (k) for a fiscal year to carry out this subsection.

(k) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $146,700,000 for fiscal year 2008, and such sums as may be necessary for each of the 3 succeeding fiscal years.

TITLE III—FOREIGN LANGUAGE PARTNERSHIP PROGRAM

SEC. 3301. FINDINGS AND PURPOSE.

(a) FINDINGS.—Congress makes the following findings:

(1) The United States faces a shortage of skilled professionals with higher levels of proficiency in foreign languages and area knowledge critical to the Nation's security.

(2) Given the Nation's economic competitiveness interests, it is crucial that our Nation expand the number of Americans who are able to function

effectively in the environments in which critical foreign languages are spoken.

(3) Students' ability to become proficient in foreign languages can be addressed by starting language learning at a younger age and expanding opportunities for continuous foreign language education from elementary school through postsecondary education.

(b) PURPOSE.—The purpose of this title is to significantly increase—

(1) the opportunities to study critical foreign languages and the context in which the critical foreign languages are spoken; and

(2) the number of American students who achieve the highest level of proficiency in critical foreign languages.

SEC. 3302. DEFINITIONS.

In this title:

(1) ELIGIBLE RECIPIENT.—The term ''eligible recipient'' means an institution of higher education that receives grant funds under this title on behalf of a partnership for use in carrying out the activities assisted under this title.

(2) PARTNERSHIP.—The term ''partnership'' means a partnership that—

(A) shall include—

(i) an institution of higher education; and

(ii) 1 or more local educational agencies; and

(B) may include 1 or more entities that support the purposes of this title.

(3) SUPERIOR LEVEL OF PROFICIENCY.—The term ''superior level of proficiency'' means level 3, the professional working level, as measured by the Federal Interagency Language Roundtable (ILR) or by other generally recognized measures of superior standards.

SEC. 3303. PROGRAM AUTHORIZED.

(a) PROGRAM AUTHORIZED.—

(1) IN GENERAL.—The Secretary is authorized to award grants to eligible recipients to enable partnerships served by the eligible recipients to establish articulated programs of study in critical foreign languages that will enable students to advance successfully from elementary school through postsecondary education and achieve higher levels of proficiency in a critical foreign language.

(2) DURATION.—A grant awarded under paragraph (1) shall be for a period of not more than 5

years. A grant may be renewed for not more than 2 additional 5-year periods, if the Secretary determines that the partnership's program is effective and the renewal will best serve the purposes of this title.

(b) APPLICATIONS.—

(1) IN GENERAL.—Each eligible recipient desiring a grant under this section shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may require.

(2) CONTENTS.—Each application shall—

(A) identify each local educational agency partner, including contact information and letters of commitment, and describe the responsibilities of each member of the partnership, including—

(i) how each of the partners will be involved in planning, developing, and implementing—

(I) program curriculum and materials; and

(II) teacher professional development;

(ii) what resources each of the partners will provide; and

(iii) how the partners will contribute to ensuring the continuity of student progress from elementary school through the postsecondary level;

(B) describe how an articulated curriculum for students will be developed and implemented, which may include the use and integration of technology into such curriculum;

(C) identify target proficiency levels for students at critical benchmarks (such as grades 4, 8, and 12), and describe how progress toward those proficiency levels will be assessed at the benchmarks, and how the program will use the results of the assessments to ensure continuous progress toward achieving a superior level of proficiency at the postsecondary level;

(D) describe how the partnership will—

(i) ensure that students from a program assisted under this title who are beginning postsecondary education will be assessed and enabled to progress to a superior level of proficiency;

(ii) address the needs of students already at, or near, the superior level of proficiency, which may include diagnostic assessments for placement purposes, customized and individualized language learning opportunities, and experimental and interdisciplinary language learning; and

(iii) identify and describe how the partnership will work with institutions of higher education outside the partnership to provide participating students with multiple options for postsecondary education consistent with the purposes of this title;

(E) describe how the partnership will support and continue the program after the grant has expired, including how the partnership will seek support from other sources, such as State and local governments, foundations, and the private sector; and

(F) describe what assessments will be used or, if assessments not available, how assessments will be developed.

(c) USES OF FUNDS.—Grant funds awarded under this title—

(1) shall be used to develop and implement programs at the elementary school level through postsecondary education, consistent with the purpose of this title, including—

(A) the development of curriculum and instructional materials; and

(B) recruitment of students; and

(2) may be used for—

(A) teacher recruitment (including recruitment from other professions and recruitment of native-language speakers in the community) and professional development directly related to the purposes of this title at the elementary school through secondary school levels;

(B) development of appropriate assessments;

(C) opportunities for maximum language exposure for students in the program, such as the creation of immersion environments (such as language houses, language tables, immersion classrooms, and weekend and summer experiences) and special tutoring and academic support;

(D) dual language immersion programs;

(E) scholarships and study-abroad opportunities, related to the program, for postsecondary students and newly recruited teachers who have advanced levels of proficiency in a critical foreign language, except that not more than 20 percent of the grant funds provided to an eligible recipient under this section for a fiscal year may be used to carry out this subparagraph;

(F) activities to encourage community involvement to assist in meeting the purposes of this title;

(G) summer institutes for students and teachers;

(H) bridge programs that allow dual enrollment for secondary school students in institutions of higher education;

(I) programs that expand the understanding and knowledge of historic, geographic, and contextual factors within countries with populations who speak critical foreign languages, if such programs are carried out in conjunction with language instruction;

(J) research on, and evaluation of, the teaching of critical foreign languages;

(K) data collection and analysis regarding the results of—

(i) various student recruitment strategies;

(ii) program design; and

(iii) curricular approaches; and

(L) the impact of the strategies, program design, and curricular approaches described in subparagraph (K) on increasing—

(i) the number of students studying critical foreign languages; and

(ii) the proficiency of the students in the critical foreign languages.

(d) MATCHING REQUIREMENT.—

(1) IN GENERAL.—An eligible recipient that receives a grant under this title shall provide, toward the cost of carrying out the activities supported by the grant, from non-Federal sources, an amount equal to—

(A) 20 percent of the amount of the grant payment for the first fiscal year for which a grant payment is made;

(B) 30 percent of the amount of the grant payment for the second such fiscal year;

(C) 40 percent of the amount of the grant payment for the third such fiscal year; and

(D) 50 percent of the amount of the grant payment for each of the fourth and fifth such fiscal years.

(2) NON-FEDERAL SHARE.—The non-Federal share required under paragraph (1) may be provided in cash or in-kind.

(3) WAIVER.—The Secretary may waive all or part of the matching requirement of paragraph (1), for any fiscal year, if the Secretary determines that—

(A) the application of the matching requirement will result in serious hardship for the partnership; or

(B) the waiver will best serve the purposes of this title.

(e) SUPPLEMENT NOT SUPPLANT.—Grant funds provided under this title shall be used to supplement, not supplant, other Federal and non-Federal funds available to carry out the activities described in subsection (c).

(f) TECHNICAL ASSISTANCE.—The Secretary shall enter into a contract to establish a technical assistance center to provide technical assistance to partnerships de-

veloping critical foreign language programs assisted under this section. The center shall—

(1) assist the partnerships in the development of critical foreign language instructional materials and assessments; and

(2) disseminate promising foreign language instructional practices.

(g) PROGRAM EVALUATION.—

(1) IN GENERAL.—The Secretary may reserve not more than 5 percent of the total amount appropriated for this title for any fiscal year to annually evaluate the programs under this title.

(2) REPORT.—The Secretary shall prepare and annually submit, to the Committee on Health, Education, Labor, and Pensions of the Senate, the Committee on Education and the Workforce of the House of Representatives, and the Committees on Appropriations of the Senate and House of Representatives, a report on the results of any program evaluation conducted under this subsection.

SEC. 3304. AUTHORIZATION OF APPROPRIATIONS.

For the purpose of carrying out this title, there are authorized to be appropriated $22,000,000 for fiscal year 2008, and such sums as may be necessary for each of the 3 succeeding fiscal years.

TITLE IV—ALIGNMENT OF EDUCATION PROGRAMS

SEC. 3401. ALIGNMENT OF SECONDARY SCHOOL GRADUATION REQUIREMENTS WITH THE DEMANDS OF 21ST CENTURY POSTSECONDARY ENDEAVORS AND SUPPORT FOR P–16 EDUCATION DATA SYSTEMS.

(a) PURPOSE.—It is the purpose of this section—

(1) to promote more accountability with respect to preparation for higher education, the 21st century workforce, and the Armed Forces, by aligning—

(A) student knowledge, student skills, State academic content standards and assessments, and curricula, in elementary and secondary education, especially with respect to mathematics, science, reading, and, where applicable, engineering and technology; with

(B) the demands of higher education, the 21st century workforce, and the Armed Forces;

(2) to support the establishment or improvement of statewide P–16 education data systems that—

(A) assist States in improving the rigor and quality of elementary and secondary edu-

cation content knowledge requirements and assessments;

(B) ensure students are prepared to succeed in—

(i) academic credit-bearing coursework in higher education without the need for remediation;

(ii) the 21st century workforce; or

(iii) the Armed Forces; and

(3) enable States to have valid and reliable information to inform education policy and practice.

(b) DEFINITIONS.—In this section:

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

(2) P–16 EDUCATION.—The term ''P–16 education'' means the educational system from prekindergarten through the conferring of a baccalaureate degree.

(3) STATEWIDE PARTNERSHIP.—The term ''statewide partnership'' means a partnership that—

(A) shall include—

(i) the Governor of the State or the designee of the Governor;

(ii) the heads of the State systems for public higher education, or, if such a position does not exist, not less than 1 representative of a public degree-granting institution of higher education;

(iii) not less than 1 representative of a technical school;

(iv) not less than 1 representative of a public secondary school;

(v) the chief State school officer;

(vi) the chief executive officer of the State higher education coordinating board;

(vii) not less than 1 public elementary school teacher employed in the State;

(viii) not less than 1 public elementary school teacher certified in early childhood education;

(ix) not less than 1 public secondary school teacher employed in the State;

(x) not less than 1 representative of the business community in the State; and

(xi) not less than 1 member of the Armed Forces; and

(B) may include other individuals or representatives of other organizations, such as a

school administrator, a faculty member at an institution of higher education, a member of a civic or community organization, a representative from a private institution of higher education, a dean or similar representative of a school of education at an institution of higher education or a similar teacher certification or licensure program, or the State official responsible for economic development.

(c) GRANTS AUTHORIZED.—The Secretary is authorized to award grants, on a competitive basis, to States to enable each such State to work with a statewide partnership—

(1) to promote better alignment of content knowledge requirements for secondary school graduation with the knowledge and skills needed to succeed in postsecondary education, the 21st century workforce, or the Armed Forces; or

(2) to establish or improve a statewide P–16 education data system.

(d) PERIOD OF GRANTS; NON-RENEWABILITY.—

(1) GRANT PERIOD.—The Secretary shall award a grant under this section for a period of not more than 3 years.

(2) NON-RENEWABILITY.—The Secretary shall not award a State more than 1 grant under this section.

(e) AUTHORIZED ACTIVITIES.—

(1) GRANTS FOR P–16 ALIGNMENT.—Each State receiving a grant under subsection (c)(1)—

(A) shall use the grant funds for—

(i) identifying and describing the content knowledge and skills students who enter institutions of higher education, the workforce, and the Armed Forces need to have in order to succeed without any remediation based on detailed requirements obtained from institutions of higher education, employers, and the Armed Forces;

(ii) identifying and making changes that need to be made to a State's secondary school graduation requirements, academic content standards, academic achievement standards, and assessments preceding graduation from secondary school in order to align the requirements, standards, and assessments with the knowledge and skills necessary for success in academic credit-bearing coursework in

postsecondary education, in the 21st century workforce, and in the Armed Forces without the need for remediation;

(iii) convening stakeholders within the State and creating a forum for identifying and deliberating on education issues that—

(I) involve prekindergarten through grade 12 education, postsecondary education, the 21st century workforce, and the Armed Forces; and

(II) transcend any single system of education's ability to address; and

(iv) implementing activities designed to ensure the enrollment of all elementary school and secondary school students in rigorous coursework, which may include—

(I) specifying the courses and performance levels necessary for acceptance into institutions of higher education; and

(II) developing curricula and assessments aligned with State academic content standards, which assessments may be used as measures of student academic achievement in secondary

school as well as for entrance or placement at institutions of higher education, including through collaboration with institutions of higher education in, or State educational agencies serving, other States; and

(B) may use the grant funds for—

(i) developing and making available specific opportunities for extensive professional development for teachers, paraprofessionals, principals, and school administrators, including collection and dissemination of effective teaching practices to improve instruction and instructional support mechanisms;

(ii) identifying changes in State academic content standards, academic achievement standards, and assessments for students in grades preceding secondary school in order to ensure the students are adequately prepared when the students enter secondary school;

(iii) developing a plan to provide remediation and additional learning opportunities for students who are performing

below grade level to ensure that all students will have the opportunity to meet secondary school graduation requirements; or

(iv) identifying and addressing teacher certification needs.

(2) GRANTS FOR STATEWIDE P–16 EDUCATION DATA SYSTEMS.—

(A) ESTABLISHMENT OF SYSTEM.—Each State that receives a grant under subsection (c)(2) shall establish a statewide P–16 education longitudinal data system that—

(i) provides each student, upon enrollment in a public elementary school or secondary school in the State, with a unique identifier, such as a bar code, that—

(I) does not permit a student to be individually identified by users of the system; and

(II) is retained throughout the student's enrollment in P–16 education in the State; and

(ii) meets the requirements of subparagraphs (B) through (E).

(B) IMPROVEMENT OF EXISTING SYSTEM.—Each State that receives a grant under subsection (c)(2) for the improvement of a statewide P–16 education data system may employ, coordinate, or revise an existing statewide data system to establish a statewide longitudinal P–16 education data system that meets the requirements of subparagraph (A), if the statewide longitudinal P–16 education data system produces valid and reliable data.

(C) DATA AND COMPLIANCE WITH FERPA.—The State, through the implementation of the statewide P–16 education data system, shall—

(i) ensure the implementation and use of valid and reliable secondary school dropout data; and

(ii) ensure that the statewide P–16 education data system meets the requirements of the Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g).

(D) REQUIRED ELEMENTS OF A STATEWIDE P–16 EDUCATION DATA SYSTEM.—The State shall ensure that the statewide P–16 edu-

cation data system includes the following elements:

(i) PREKINDERGARTEN THROUGH GRADE 12 EDUCATION AND POSTSECONDARY EDUCATION.—With respect to prekindergarten through grade 12 education and postsecondary education—

(I) a unique statewide student identifier that does not permit a student to be individually identified by users of the system;

(II) student-level enrollment, demographic, and program participation information;

(III) student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P–16 education programs;

(IV) the capacity to communicate with higher education data systems; and

(V) a State data audit system assessing data quality, validity, and reliability.

(ii) PREKINDERGARTEN THROUGH GRADE 12 EDUCATION.—With respect to prekindergarten through grade 12 education—

(I) yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b));

(II) information on students not tested by grade and subject;

(III) a teacher identifier system with the ability to match teachers to students;

(IV) student-level transcript information, including information on courses completed and grades earned; and

(V) student-level college readiness test scores.

(iii) POSTSECONDARY EDUCATION.—With respect to postsecondary education, data that provide—

(I) information regarding the extent to which students transition suc-

cessfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and

(II) other information determined necessary to address alignment and adequate preparation for success in postsecondary education.

(E) FUNCTIONS OF THE STATEWIDE P–16 EDUCATION DATA SYSTEM.—In implementing the statewide P–16 education data system, the State shall—

(i) identify factors that correlate to students' ability to successfully engage in and complete postsecondary-level general education coursework without the need for prior developmental coursework;

(ii) identify factors to increase the percentage of low-income and minority students who are academically prepared to enter and successfully complete postsecondary-level general education coursework; and

(iii) use the data in the system to otherwise inform education policy and practice

in order to better align student knowledge and skills, and curricula, with the demands of postsecondary education, the 21st century workforce, and the Armed Forces.

(f) APPLICATION.—

(1) IN GENERAL.—Each State desiring a grant under this section shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may reasonably require.

(2) APPLICATION CONTENTS.—Each application submitted under this section shall specify whether the State application is for the conduct P–16 education alignment activities, or the establishment or improvement of a statewide P–16 education data system. The application shall include, at a minimum, the following:

(A) A description of the activities and programs to be carried out with the grant funds and a comprehensive plan for carrying out the activities.

(B) A description of how the concerns and interests of the larger education community, including parents, students, teachers, teacher educators, principals, and school administrators

will be represented in carrying out the authorized activities described in subsection (e).

(C) In the case of a State applying for funding for P–16 education alignment, a description of how the State will provide assistance to local educational agencies in implementing rigorous State content knowledge requirements through substantive curricula and other changes the State determines necessary, including scientifically based remediation and acceleration opportunities for students.

(D) In the case of a State applying for funding to establish or improve a statewide P–16 education data system—

(i) a description of and the timetable for the establishment or improvement of such system; and

(ii) an assurance that the State will continue to fund the statewide P–16 education data system after the end of the grant period.

(g) SUPPLEMENT NOT SUPPLANT.—Grant funds provided under this section shall be used to supplement, not supplant, other Federal, State, and local funds avail-

able to carry out the authorized activities described in subsection (e).

(h) MATCHING REQUIREMENT.—Each State that receives a grant under this section shall provide, from non-Federal sources, an amount equal to 100 percent of the amount of the grant, in cash or in kind, to carry out the activities supported by the grant.

(i) RULE OF CONSTRUCTION.—Nothing in this section shall be construed to require States to provide raw data to the Secretary.

(j) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $100,000,000 for fiscal year 2008 and such sums as may be necessary for fiscal year 2009.

DIVISION D—NATIONAL SCIENCE FOUNDATION

SEC. 4001. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There are authorized to be appropriated to the National Science Foundation—

(1) $6,808,000,000 for fiscal year 2008;

(2) $7,433,000,000 for fiscal year 2009;

(3) $8,446,000,000 for fiscal year 2010; and

(4) $11,200,000,000 for fiscal year 2011.

(b) PLAN FOR INCREASED RESEARCH.—

(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Director of the National Science Foundation, in consultation with the National Science Board, shall submit a comprehensive, multiyear plan that describes how the funds authorized in subsection (a) would be used, if appropriated, to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Health, Education, Labor, and Pensions of the Senate, and the Committee on Science of the House of Representatives.

(2) PLAN REQUIREMENTS.—The Director shall—

(A) develop the plan with a focus on strengthening the Nation's lead in physical science and technology, increasing overall workforce skills in physical science, technology, engineering, and mathematics at all levels, and strengthening innovation by expanding the focus of competitiveness and innovation policy at the regional and local level; and

(B) emphasize spending increased research funds appropriated pursuant to subsection (a) in areas of investment for Federal research and

technology programs identified under section 1101(c) of this Act.

SEC. 4002. STRENGTHENING OF EDUCATION AND HUMAN RESOURCES DIRECTORATE THROUGH EQUITABLE DISTRIBUTION OF NEW FUNDS.

(a) PURPOSE.—The purpose of this section is to ensure the continued involvement of experts at the National Science Foundation in improving science, technology, engineering, and mathematics education at the elementary, secondary, and postsecondary school levels by providing annual funding increases for the education and human resources programs of the National Science Foundation that are proportional to the funding increases provided to the Foundation overall.

(b) EQUITABLE DISTRIBUTION OF NEW FUNDS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated for the education and human resources programs of the National Science Foundation, for each of the fiscal years 2008 through 2011, an amount equal to $1,050,000,000 increased for each such fiscal year by an amount equal to the percentage increase in the appropriation for the National Science Foundation for such fiscal year above the amount appropriated to the National Science Foundation for fiscal year 2007.

SEC. 4003. GRADUATE FELLOWSHIPS AND GRADUATE TRAINEESHIPS.

(a) GRADUATE RESEARCH FELLOWSHIP PROGRAM.—

(1) IN GENERAL.—During the 5-year period beginning on the date of the enactment of this Act, the Director of the National Science Foundation shall expand the Graduate Research Fellowship Program of the National Science Foundation so that an additional 1,250 fellowships are awarded to citizens or nationals of the United States or eligible lawful permanent residents under the Program during that period.

(2) EXTENSION OF FELLOWSHIP PERIOD.—The Director is authorized to award fellowships under the Graduate Research Fellowship Program for a period of up to 5 years.

(3) AUTHORIZATION OF APPROPRIATIONS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated, to provide an additional 250 fellowships under the Graduate Research Fellowship Program during each of the fiscal years 2008 through 2011, the following:

(A) $24,000,000 for fiscal year 2008.

(B) $36,000,000 for fiscal year 2009.

(C) $48,000,000 for fiscal year 2010.

(D) $60,000,000 for fiscal year 2011.

(b) INTEGRATIVE GRADUATE EDUCATION AND RESEARCH TRAINEESHIP PROGRAM.—

(1) IN GENERAL.—During the 5-year period beginning on the date of the enactment of this Act, the Director shall expand the Integrative Graduate Education and Research Traineeship program of the National Science Foundation so that an additional 1,250 individuals who are citizens or nationals of the United States or eligible lawful permanent residents are awarded grants under the program during that period.

(2) AUTHORIZATION OF APPROPRIATIONS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated, to provide grants to an additional 250 individuals under the Integrative Graduate Education and Research Traineeship program during each of the fiscal years 2008 through 2011, the following:

(A) $22,000,000 for fiscal year 2008.

(B) $33,000,000 for fiscal year 2009.

(C) $44,000,000 for fiscal year 2010.

(D) $55,000,000 for fiscal year 2011.

(c) DEFINITION OF ELIGIBLE LAWFUL PERMANENT RESIDENT.—In this section, the term ''eligible lawful permanent resident'' means a lawful permanent resident of the United States who declares an intent—

(1) to apply for United States citizenship; or

(2) to reside in the United States for not less than 5 years after the completion of a graduate fellowship or traineeship awarded under this section.

SEC. 4004. PROFESSIONAL SCIENCE MASTER'S DEGREE PROGRAMS.

(a) CLEARINGHOUSE.—

(1) DEVELOPMENT.—The Director of the National Science Foundation shall establish a clearinghouse, in collaboration with 4-year institutions of higher education (including applicable graduate schools and academic departments), and industries and Federal agencies that employ science-trained personnel, to share program elements used in successful professional science master's degree programs and other advanced degree programs related to science, mathematics, technology, and engineering.

(2) AVAILABILITY.—The Director shall make the clearinghouse of program elements developed under paragraph (1) available to institutions of

higher education that are developing professional science master's degree programs.

(b) PROGRAMS.—

(1) PROGRAMS AUTHORIZED.—The Director shall award grants to 4-year institutions of higher education to facilitate the institutions' creation or improvement of professional science master's degree programs.

(2) APPLICATION.—A 4-year institution of higher education desiring a grant under this section shall submit an application at such time, in such manner, and accompanied by such information as the Director may require. The application shall include—

(A) a description of the professional science master's degree program that the institution of higher education will implement;

(B) the amount of funding from non-Federal sources, including from private industries, that the institution of higher education shall use to support the professional science master's degree program; and

(C) an assurance that the institution of higher education shall encourage students in the professional science master's degree pro-

gram to apply for all forms of Federal assistance available to such students, including applicable graduate fellowships and student financial assistance under titles IV and VII of the Higher Education Act of 1965 (20 U.S.C. 1070 et seq., 1133 et seq.).

(3) PREFERENCE FOR APPLICANTS WITH ALTERNATIVE FUNDING SOURCES.—The Director shall give preference in making awards to 4-year institutions of higher education seeking Federal funding to create or improve professional science master's degree programs, to those applicants that secure more than ⅔ of the funding for such professional science master's degree programs from sources other than the Federal Government.

(4) NUMBER OF GRANTS; TIME PERIOD OF GRANTS.—

(A) NUMBER OF GRANTS.—Subject to the availability of appropriated funds, the Director shall award grants under paragraph (1) to a maximum of 200 4-year institutions of higher education.

(B) TIME PERIOD OF GRANTS.—Grants awarded under this section shall be for one 3-

year term. Grants may be renewed only once for a maximum of 2 additional years.

(5) EVALUATION AND REPORTS.—

(A) DEVELOPMENT OF PERFORMANCE BENCHMARKS.—Prior to the start of the grant program, the Director of the National Science Foundation, in collaboration with 4-year institutions of higher education (including applicable graduate schools and academic departments), and industries and Federal agencies that employ science-trained personnel, shall develop performance benchmarks to evaluate the pilot programs assisted by grants under this section.

(B) EVALUATION.—For each year of the grant period, the Director, in consultation with 4-year institutions of higher education (including applicable graduate schools and academic departments), and industries and Federal agencies that employ science-trained personnel, shall complete an evaluation of each program assisted by grants under this section. Any program that fails to satisfy the performance benchmarks developed under subparagraph (A) shall not be eligible for further funding.

(C) REPORT.—Not later than 180 days after the completion of an evaluation described in subparagraph (B), the Director shall submit a report to Congress that includes—

(i) the results of the evaluation described in subparagraph (B); and

(ii) recommendations for administrative and legislative action that could optimize the effectiveness of the pilot programs, as the Director determines to be appropriate.

(c) INSTITUTION OF HIGHER EDUCATION DEFINED.—In this section, the term ''institution of higher education'' has the meaning given that term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(d) AUTHORIZATION OF APPROPRIATIONS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated to carry out this section—

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

(2) $18,000,000 for fiscal year 2009; and

(3) $20,000,000 for each of the fiscal years 2010 and 2011.

SEC. 4005. INCREASED SUPPORT FOR SCIENCE EDUCATION THROUGH THE NATIONAL SCIENCE FOUNDATION.

(a) IN GENERAL.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated to carry out the science, mathematics, engineering, and technology talent expansion program under section 8(7) of the National Science Foundation Authorization Act of 2002 (Public Law 107–368, 116 Stat. 3042)—

(1) $40,000,000 for fiscal year 2008;

(2) $45,000,000 for fiscal year 2009;

(3) $50,000,000 for fiscal year 2010; and

(4) $55,000,000 for fiscal year 2011.

(b) PROMOTING OUTREACH AND HIGH QUALITY.—Section 8(7)(C) of the National Science Foundation Authorization Act of 2002 (Public Law 107–368, 116 Stat. 3042) is amended—

(1) by redesignating clauses (i) through (vi) as subclauses (I) through (VI), respectively, and indenting appropriately;

(2) by striking ''include those that promote high quality—'' and inserting ''include programs that—

''(i) promote high-quality—'';

(3) in clause (i) (as inserted by paragraph (2))—

(A) in subclause (III) (as redesignated by paragraph (1)), by striking ''for students;'' and inserting ''for students, especially underrepresented minority and female mathematics, science, engineering, and technology students;'';

(B) in subclause (V) (as redesignated by paragraph (1)), by striking ''and'' after the semicolon;

(C) in subclause (VI) (as redesignated by paragraph (1)), by striking ''students.'' and inserting ''students; and''; and

(D) by adding at the end the following:

''(VII) outreach programs that provide middle and secondary school students and their science and math teachers opportunities to increase the students' and teachers' exposure to engineering and technology;''; and

(4) by adding at the end the following:

''(ii) finance summer internships for mathematics, science, engineering, and technology undergraduate students;

''(iii) facilitate the hiring of additional mathematics, science, engineering, and technology faculty; and

''(iv) serve as bridges to enable underrepresented minority and female secondary school students to obtain extra mathematics, science, engineering, and technology training prior to entering an institution of higher education.''.

SEC. 4006. MEETING CRITICAL NATIONAL SCIENCE NEEDS.

(a) IN GENERAL.—In addition to any other criteria, the Director of the National Science Foundation shall include consideration of the degree to which awards and research activities that otherwise qualify for support by the National Science Foundation may assist in meeting critical national needs in innovation, competitiveness, the physical and natural sciences, technology, engineering, and mathematics.

(b) PRIORITY TREATMENT.—The Director shall give priority in the selection of awards and the allocation of National Science Foundation resources to proposed research activities, and grants funded under the National Science Foundation's Research and Related Activities Account, that can be expected to make contributions in physical or natural science, technology, engineering, or mathe-

matics, or that enhance competitiveness or innovation in the United States.

(c) LIMITATION.—Nothing in this section shall be construed to restrict or bias the grant selection process against funding other areas of research deemed by the National Science Foundation to be consistent with its mandate nor to change the core mission of the National Science Foundation.

SEC. 4007. REAFFIRMATION OF THE MERIT-REVIEW PROCESS OF THE NATIONAL SCIENCE FOUNDATION.

Nothing in this division or division A, or the amendments made by this division or division A, shall be interpreted to require or recommend that the National Science Foundation—

(1) alter or modify its merit-review system or peer-review process; or

(2) exclude the awarding of any proposal by means of the merit-review or peer-review process.

SEC. 4008. EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH.

Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated to the National Science Foundation for the Experimental Program to Stimulate Competitive Research authorized

under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g), for each of fiscal years 2008 through 2011, an amount equal to $125,000,000 increased for each such year by an amount equal to the percentage increase in the appropriation for the National Science Foundation for such fiscal year above the total amount appropriated to the National Science Foundation for fiscal year 2007.

SEC. 4009. ENCOURAGING PARTICIPATION.

(a) MENTORING PROGRAM.—The Director of the National Science Foundation shall establish a program to recruit and provide mentors for women who are interested in careers in science, technology, engineering, and mathematics by pairing such women who are in science, technology, engineering, or mathematics programs of study in secondary school, community college, undergraduate or graduate school with mentors who are working in industry.

(b) ADDITIONAL LEARNING PROGRAM.—The Director shall also establish a program to provide grants to community colleges to provide additional learning and other appropriate training to allow women to enter higher-paying technical jobs in fields related to science, technology, engineering, or mathematics.

(c) APPLICATIONS.—An institution of higher education, including a community college, desiring a grant under this section shall submit an application at such time, in such manner, and accompanied by such information as the Director may require.

(d) PROGRAM EVALUATION.—The Director shall establish metrics to evaluate the success of the programs established under subsections (a) and (b) annually and report the findings and conclusions of the evaluations annually to Congress.

SEC. 4010. CYBERINFRASTRUCTURE.

In order to continue and expand efforts to ensure that research institutions throughout the Nation can fully participate in research programs of the National Science Foundation and collaborate with colleagues throughout the nation, the Director of the National Science Foundation, within 180 days after the date of enactment of this Act, shall develop and publish a plan that describes the current status of broadband access for scientific research purposes in States located in EPSCoR-eligible jurisdictions and outlines actions which can be taken to ensure that such connections are available to enable participation in those National Science Foundation programs which rely heavily on high-speed networking and collaborations across institutions and regions.

SEC. 4011. FEDERAL INFORMATION AND COMMUNICATIONS TECHNOLOGY RESEARCH.

(a) ADVANCED INFORMATION AND COMMUNICATIONS TECHNOLOGY RESEARCH.—

(1) NATIONAL SCIENCE FOUNDATION INFORMATION AND COMMUNICATIONS TECHNOLOGY RESEARCH.—The Director of the National Science Foundation shall establish a program of basic research in advanced information and communications technologies focused on enhancing or facilitating the availability and affordability of advanced communications services to all people of the United States. In developing and carrying out the program, the Director shall consult with the Board established under paragraph (2).

(2) FEDERAL ADVANCED INFORMATION AND COMMUNICATIONS TECHNOLOGY RESEARCH BOARD.—There is established within the National Science Foundation a Federal Advanced Information and Communications Technology Research Board (referred to in this subsection as ''the Board'') which shall advise the Director of the National Science Foundation in carrying out the program authorized under paragraph (1). The Board shall be composed of individuals with expertise in information and communications technologies, including rep-

resentatives from the National Telecommunications and Information Administration, the Federal Communications Commission, the National Institute of Standards and Technology, and the Department of Defense, and representatives from industry and educational institutions.

(3) GRANT PROGRAM.—The Director of the National Science Foundation, in consultation with the Board, shall award grants for basic research into advanced information and communications technologies that will contribute to enhancing or facilitating the availability and affordability of advanced communications services to all people of the United States. Areas of research to be supported through the grants include—

(A) affordable broadband access, including wireless technologies;

(B) network security and reliability;

(C) communications interoperability;

(D) networking protocols and architectures, including resilience to outages or attacks;

(E) trusted software;

(F) privacy;

(G) nanoelectronics for communications applications;

(H) low-power communications electronics;

(I) implementation of equitable access to national advanced fiber optic research and educational networks in noncontiguous States; and

(J) such other related areas as the Director, in consultation with the Board, finds appropriate.

(4) CENTERS.—The Director shall award multiyear grants, subject to the availability of appropriations, to institutions of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)), nonprofit research institutions affiliated with institutions of higher education, or consortia thereof to establish multidisciplinary Centers for Communications Research. The purpose of the Centers shall be to generate innovative approaches to problems in communications and information technology research, including the research areas described in paragraph (3). Institutions of higher education, nonprofit research institutions affiliated with institutions of higher education, or consortia receiving such grants may partner with 1 or more government laboratories or for-profit entities, or other institutions of higher education or nonprofit research institutions.

(5) APPLICATIONS.—The Director of the National Science Foundation, in consultation with the Board, shall establish criteria for the award of grants under paragraphs (3) and (4). Such grants shall be awarded under the programs on a merit-reviewed competitive basis. The Director shall give priority to grants that offer the potential for revolutionary rather than evolutionary breakthroughs.

(6) AUTHORIZATION OF APPROPRIATIONS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated to the National Science Foundation to carry out this subsection—

(A) $45,000,000 for fiscal year 2008;

(B) $50,000,000 for fiscal year 2009;

(C) $55,000,000 for fiscal year 2010; and

(D) $60,000,000 for fiscal year 2011.

(b) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY RESPONSIBILITIES.—The Director of the National Institute of Standards and Technology shall continue to support research and support standards development in advanced information and communications technologies focused on enhancing or facilitating the availability and affordability of advanced communications services to all people of the United States, in order to imple-

ment the Institute's responsibilities under section 2(c)(12) of the National Institute of Standards and Technology Act (15 U.S.C. 272(c)(12)). The Director shall support intramural research and cooperative research with institutions of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)) and industry.

SEC. 4012. ROBERT NOYCE TEACHER SCHOLARSHIP PROGRAM.

(a) IN GENERAL.—Section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–1) is amended—

(1) in the section heading, by inserting ''**TEACHER**'' after ''**NOYCE**'';

(2) in subsection (a)—

(A) in paragraph (1)—

(i) by striking ''to provide scholarships, stipends, and programming designed'';

(ii) by inserting ''and to provide scholarships and stipends to students participating in the program'' after ''science teachers''; and

(iii) by inserting ''Teacher'' after ''Noyce'';

(B) in paragraph (3)—

(i) in subparagraph (A)—

(I) in the matter preceding clause (i)—

(aa) by striking ''encourage top college juniors and seniors majoring in'' and inserting ''recruit and prepare undergraduate students to pursue degrees in''; and

(bb) by striking ''to become'' and inserting ''and become qualified as'';

(II) in clause (ii)—

(aa) by striking ''programs to help scholarship recipients'' and inserting ''academic courses and clinical teaching experiences designed to prepare students participating in the program'';

(bb) by striking ''programs that will result in'' and inserting ''such preparation as is necessary to meet requirements for''; and

(cc) by striking ''licensing; and'' and inserting ''licensing;'';

(III) in clause (iii)—

(aa) by striking ''scholarship recipients'' and inserting ''students participating in the program'';

(bb) by striking ''enable the recipients'' and inserting ''enable the students''; and

(cc) by striking ''; or'' and inserting ''; and''; and

(IV) by adding at the end the following:

''(iv) providing summer internships for freshman and sophomore students participating in the program; or''; and

(ii) in subparagraph (B)—

(I) in the matter preceding clause (i)—

(aa) by striking ''encourage'' and inserting ''recruit and prepare''; and

(bb) by inserting ''qualified as'' after ''to become'';

(II) by striking clause (ii) and inserting the following:

''(ii) offering academic courses and clinical teaching experiences designed to prepare stipend recipients to teach in elementary schools and secondary schools, including such preparation as necessary to meet requirements for teacher certification or licensing;''; and

(C) by adding at the end the following:

''(4) ELIGIBILITY REQUIREMENT.—To be eligible for an award under this section, an institution of higher education (or a consortium of such institutions) shall ensure that specific faculty members and staff from the mathematics, science, or engineering department of the institution (or a participating institution of the consortium) and specific education faculty members of the institution (or such participating institution) are designated to carry out the development and implementation of the program. An institution of higher education (or consortium) may also include teachers to participate in developing the pedagogical content of the program and to supervise students participating in the program in their field teaching experiences. No institution of higher edu-

cation (or consortium) shall be eligible for an award unless faculty from the institution's mathematics, science, or engineering department are active participants in the program.'';

(3) in subsection (b)—

(A) in paragraph (1)—

(i) in subparagraph (A)—

(I) by striking ''scholarship or stipend'';

(II) by inserting ''and summer internships'' after ''number of scholarships''; and

(III) by inserting ''the type of activities proposed for the recruitment of students to the program,'' after ''intends to award,'';

(ii) in subparagraph (B)—

(I) by striking ''scholarship or stipend''; and

(II) by striking ''; and'' and inserting '', which may include a description of any existing programs at the applicant's institution that are targeted to the education of science and mathematics teachers and the

number of teachers graduated annually from such programs;''; and

(iii) by striking subparagraph (C) and inserting the following:

''(C) a description of the academic courses and clinical teaching experiences required under subparagraph (A)(ii) or B)(ii) of subsection (a)(3), including—

''(i) a description of the undergraduate program that will enable a student to graduate in 4 years with a major in mathematics, science, or engineering and to obtain teacher certification or licensing;

''(ii) a description of clinical teaching experiences proposed; and

''(iii) evidence of agreements between the applicant and the schools or school districts that are identified as the locations at which clinical teaching experiences will occur;

''(D) a description of the programs required under subparagraph (A)(iii) or (B)(iii) of subsection (a)(3), including activities to as-

sist new teachers in fulfilling their service requirements under this section; and

''(E) an identification of the applicant's mathematics, science, or engineering faculty and its education faculty who will carry out the development and implementation of the program as required under subsection (a)(4).''; and

(B) in paragraph (2)—

(i) by redesignating subparagraphs (B) through (E) as subparagraphs (C) through (F), respectively; and

(ii) by inserting after subparagraph (A) the following:

''(B) the extent to which the applicant's mathematics, science, or engineering faculty and its education faculty have worked or will work collaboratively to design new or revised curricula that recognize the specialized pedagogy required to teach mathematics and science effectively in elementary schools and secondary schools;'';

(4) in subsection (c)—

(A) in paragraph (3)—

(i) by striking ''$7,500'' and inserting ''$10,000''; and

(ii) by striking ''of scholarship support'' and inserting ''of scholarship support, unless the Director establishes a policy by which part-time students may receive additional years of support''; and

(B) in paragraph (4), by inserting '', with a maximum service requirement of 4 years'' after ''was received'';

(5) in subsection (d)—

(A) in paragraph (2), by inserting ''and professional achievement'' after ''academic merit''; and

(B) in paragraph (4), by striking ''for each year a stipend was received'';

(6) in subsection (g)—

(A) in paragraph (1), by inserting ''or stipend'' after scholarship; and

(B) by striking paragraph (2) and inserting the following:

''(2) REPAYMENT FOR FAILURE TO COMPLETE SERVICE.—

''(A) LESS THAN 1 YEAR OF SERVICE.—If a circumstance described in paragraph (1) occurs before the completion of 1 year of a service obligation under this section, the sum of the

total amount of awards received by the individual under this section shall be treated as a loan payable to the Federal Government, consistent with the provisions of part B or D of title IV of the Higher Education Act of 1965, and shall be subject to repayment in accordance with terms and conditions specified by the Secretary of Education in regulations promulgated to carry out this paragraph.

''(B) 1 YEAR OR MORE OF SERVICE.—If a circumstance described in subparagraph (D) or (E) of paragraph (1) occurs after the completion of 1 year of a service obligation under this section, an amount equal to ½ of the sum of the total amount of awards received by the individual under this section shall be treated as a loan payable to the Federal Government, consistent with the provisions of part B or D of title IV of the Higher Education Act of 1965, and shall be subject to repayment in accordance with terms and conditions specified by the Secretary of Education in regulations promulgated to carry out this paragraph.'';

(7) by redesignating subsection (i) as subsection (k);

(8) by inserting after subsection (h) the following:

''(i) SCIENCE AND MATHEMATICS SCHOLARSHIP GIFT FUND.—In accordance with section 11(f) of the National Science Foundation Act of 1950, the Director is authorized to accept donations from the private sector to supplement, but not supplant, scholarships, stipends, or internships associated with the programs under this section.

''(j) ASSESSMENT OF TEACHER RETENTION.—Not later than 4 years after the date of enactment of the America COMPETES Act, the Director shall transmit to Congress a report on the effectiveness of the program carried out under this section regarding the retention of participants in the teaching profession beyond the service obligation required under this section.'';

(9) in subsection (k) (as redesignated by paragraph (7))—

(A) by redesignating paragraphs (2) through (5) as paragraphs (3) through (6), respectively;

(B) by inserting after paragraph (1) the following:

''(2) the term 'high-need local educational agency' means a local educational agency or educational

service agency (as defined in section 9101 of the Elementary and Secondary Education Act of 1965)—

''(A)(i) that serves not less than 10,000 children from low-income families;

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

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

''(B)(i) for which there is a higher percentage of teachers providing instruction in academic subject areas or grade levels for which the teachers are not highly qualified; or

''(ii) for which there is a high teacher turnover rate or a high percentage of teachers with emergency, provisional, or temporary certification or licensure;''; and

(C) in paragraph (4) (as redesignated by subparagraph (A)) by inserting ''or had a career'' after ''is working''; and

(10) by adding at the end the following:

''(l) AUTHORIZATION OF APPROPRIATIONS.—

''(1) IN GENERAL.—Within the amounts authorized to be appropriated by section 4001 of the America COMPETES Act and except as provided in paragraph (2), there are authorized to be appropriated to the Director for the Robert Noyce Teacher Scholarship Program under this section—

''(A) $117,000,000 for fiscal year 2008, of which at least $18,000,000 shall be used for capacity building activities described in clauses (ii) and (iii) of subsection (a)(3)(A) and clauses (ii) and (iii) of subsection (a)(3)(B);

''(B) $130,000,000 for fiscal year 2009, of which at least $21,000,000 shall be used for such capacity building activities;

''(C) $148,000,000 for fiscal year 2010, of which at least $24,000,000 shall be used for such capacity building activities; and

''(D) $200,000,000 for fiscal year 2011, of which at least $27,000,000 shall be used for such capacity building activities.

''(2) EXCEPTION.—For any fiscal year for which the funding allocated for activities under this section is less than $105,000,000, the amount of funding available for capacity building activities de-

scribed in subparagraphs (A) through (D) of paragraph (1) shall not exceed 15 percent of the allocated funds.''.

(b) CONFORMING AMENDMENTS.—

(1) SECTION 4.—Section 4 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n note) is amended in the matter preceding paragraph (1) by striking ''In this Act:'' and inserting ''Except as otherwise provided, in this Act:''.

(2) SECTION 8.—Section 8(6) of the National Science Foundation Authorization Act of 2002 (Public Law 107–368) is amended—

(A) in the paragraph heading, by inserting ''TEACHER'' after ''NOYCE''; and

(B) by inserting ''Teacher'' after ''Noyce''.

SEC. 4013. SENSE OF THE SENATE REGARDING THE MATHEMATICS AND SCIENCE PARTNERSHIP PROGRAMS OF THE DEPARTMENT OF EDUCATION AND THE NATIONAL SCIENCE FOUNDATION.

It is the sense of the Senate that—

(1) although the mathematics and science education partnership program at the National Science Foundation and the mathematics and science partnership program at the Department of Education

practically share the same name, the 2 programs are intended to be complementary, not duplicative;

(2) the National Science Foundation partnership programs are innovative, model reform initiatives that move promising ideas in education from research into practice to improve teacher quality, develop challenging curricula, and increase student achievement in mathematics and science, and Congress intends that the National Science Foundation peer-reviewed partnership programs found to be effective should be put into wider practice by dissemination through the Department of Education partnership programs; and

(3) the Director of the National Science Foundation and the Secretary of Education should have ongoing collaboration to ensure that the 2 components of this priority effort for mathematics and science education continue to work in concert for the benefit of States and local practitioners nationwide.

SEC. 4014. NATIONAL SCIENCE FOUNDATION TEACHER INSTITUTES FOR THE 21ST CENTURY.

(a) AUTHORIZATION OF APPROPRIATIONS.—Within the amounts authorized to be appropriated by section 4001, there are authorized to be appropriated to carry out the teacher institutes for the 21st century under para-

graphs (3) and (7) of section 9(a) of the National Science Foundation Authorization Act of 2002 (as amended by subsection (b)) (42 U.S.C. 1862n(a))—

(1) $84,000,000 for fiscal year 2008;

(2) $94,000,000 for fiscal year 2009;

(3) $106,000,000 for fiscal year 2010; and

(4) $140,000,000 for fiscal year 2011.

(b) TEACHER INSTITUTES FOR THE 21ST CENTURY.—Section 9(a) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n(a)) is amended—

(1) in paragraph (3)(B), by striking ''summer or'' and inserting ''teacher institutes for the 21st century, as described in paragraph (7),'';

(2) by redesignating paragraph (7) as paragraph (8); and

(3) by inserting after paragraph (6) the following:

''(7) TEACHER INSTITUTES FOR THE 21ST CENTURY.—

''(A) IN GENERAL.—Teacher institutes for the 21st century carried out in accordance with paragraph (3)(B) shall—

"(i) be carried out in conjunction with a school served by the local educational agency in the partnership;

"(ii) be science, technology, engineering, and mathematics focused institutes that provide professional development to elementary school and secondary school teachers during the summer;

"(iii) serve teachers who are considered highly qualified (as defined in section 9101 of the Elementary and Secondary Education Act of 1965), teach high-need subjects, and teach in high-need schools (as described in section 1114(a)(1) of the Elementary and Secondary Education Act of 1965);

"(iv) focus on the theme and structure developed by the Director under subparagraph (C);

"(v) be content-based and build on school year curricula that are experiment-oriented, content-based, and grounded in current research;

"(vi) ensure that the pedagogy component is designed around specific strategies

that are relevant to teaching the subject and content on which teachers are being trained, which may include training teachers in the essential components of reading instruction for adolescents in order to improve student reading skills within the subject areas of science, technology, engineering, and mathematics;

''(vii) be a multiyear program that is conducted for a period of not less than 2 weeks per year;

''(viii) provide for direct interaction between participants in and faculty of the teacher institute;

''(ix) have a component that includes the use of the Internet;

''(x) provide for followup training in the classroom during the academic year for a period of not less than 3 days, which may or may not be consecutive, for participants in the teacher institute, except that for teachers in rural local educational agencies, the followup training may be provided through the Internet;

"(xi) provide teachers participating in the teacher institute with travel expense reimbursement and classroom materials related to the teacher institute, and may include providing stipends as necessary; and

"(xii) establish a mechanism to provide supplemental support during the academic year for teacher institute participants to apply the knowledge and skills gained at the teacher institute.

"(B) OPTIONAL MEMBERS OF THE PARTNERSHIP.—In addition to the partnership requirement under paragraph (2), an institution of higher education or eligible nonprofit organization (or consortium) desiring a grant for a teacher institute for the 21st century may also partner with a teacher organization, museum, or educational partnership organization.

"(C) THEME AND STRUCTURE.—Each year, not later than 180 days before the application deadline for a grant under this section, the Director shall, in consultation with a broad group of relevant education organizations, develop a theme and structure for the teacher in-

stitutes of the 21st century supported under paragraph (3)(B).''.

Calendar No. 70

110TH CONGRESS
1ST SESSION

S. 761

A BILL

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

MARCH 6, 2007

Read the second time and placed on the calendar